AD-A134 833   PLANNING AND DESIGNING EFFECTIVE DEFENCE AND RELATED   1/2
              INFORMATION SERVICES..(U) ADVISORY GROUP FOR AEROSPACE
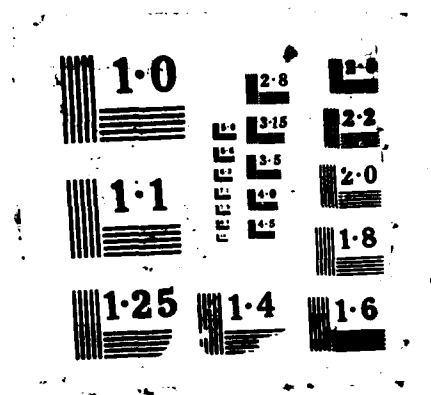   RESEARCH AND DEVELOPMENT NEUILLY..   APR 87 AGARD-CP-416

UNCLASSIFIED   F/G 5/2   NL

AGARD-CP-416

AGARD

ADVISORY GROUP FOR AEROSPACE RESEARCH & DEVELOPMENT

AGARD CONFERENCE PROCEEDINGS No.416

Planning and Designing Effective Defence and Related Information Services

DTIC
S ELECTE D
JUN 2 3 1987
D

NORTH ATLANTIC TREATY ORGANIZATION

DISTRIBUTION AND AVAILABILITY
ON BACK COVER

87   6 22 008

400043 CL

COMPONENT PART NOTICE

THIS PAPER IS A COMPONENT PART OF THE FOLLOWING COMPILATION REPORT:

TITLE: Planning and Designing Effective Defence and Related Information Services:

Conference Proceedings of the Technical Information Panel Specialists'

Meeting Held in Ankara, Turkey on 10-11 September 1986.

TO ORDER THE COMPLETE COMPILATION REPORT, USE AD-A184 833

THE COMPONENT PART IS PROVIDED HERE TO ALLOW USERS ACCESS TO INDIVIDUALLY
AUTHORED SECTIONS OF PROCEEDING, ANNALS, SYMPOSIA, ETC. HOWEVER, THE COMPONENT
SHOULD BE CONSIDERED WITHIN THE CONTEXT OF THE OVERALL COMPILATION REPORT AND
NOT AS A STAND-ALONE TECHNICAL REPORT.

THE FOLLOWING COMPONENT PART NUMBERS COMPRISE THE COMPILATION REPORT:

AD#: P005 621 thru P005 628   AD#: _____

AD#: _____   AD#: _____

AD#: _____   AD#: _____

DTIC
SELECTED
OCT 0 9 1987
E

Accession For
NTIS GRA&I
DTIC TAB
Unannounced
Justification

By
Distribution/
Availability Codes
Dist | Avail and/or
Special
A-1

DTIC FORM 463
MAR 85

OPI: DTIC-TID

AGARD-CP-416

NORTH ATLANTIC TREATY ORGANIZATION

ADVISORY GROUP FOR AEROSPACE RESEARCH AND DEVELOPMENT

(ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD)

AGARD Conference Proceedings No.416

PLANNING AND DESIGNING EFFECTIVE DEFENCE

AND RELATED INFORMATION SERVICES

Copies of papers presented at the Technical Information Panel Specialists' Meeting held in
Ankara, Turkey on 10—11 September 1986.

THE MISSION OF AGARD

The mission of AGARD is to bring together the leading personalities of the NATO nations in the fields of science and technology relating to aerospace for the following purposes:

— Exchanging of scientific and technical information;

— Continuously stimulating advances in the aerospace sciences relevant to strengthening the common defence posture;

— Improving the co-operation among member nations in aerospace research and development;

— Providing scientific and technical advice and assistance to the Military Committee in the field of aerospace research and development (with particular regard to its military application);

— Rendering scientific and technical assistance, as requested, to other NATO bodies and to member nations in connection with research and development problems in the aerospace field;

— Providing assistance to member nations for the purpose of increasing their scientific and technical potential;

— Recommending effective ways for the member nations to use their research and development capabilities for the common benefit of the NATO community.

The highest authority within AGARD is the National Delegates Board consisting of officially appointed senior representatives from each member nation. The mission of AGARD is carried out through the Panels which are composed of experts appointed by the National Delegates, the Consultant and Exchange Programme and the Aerospace Applications Studies Programme. The results of AGARD work are reported to the member nations and the NATO Authorities through the AGARD series of publications of which this is one.

Participation in AGARD activities is by invitation only and is normally limited to citizens of the NATO nations.

ii

THEME

As in all projects, good preparation is essential to the success of information services. The aim of this meeting was to give guidance on the design of information services, the planning of their introduction and the resources required to run them.

The Host Nation, Turkey, set the scene by describing the information scene in that country, and other introductory papers identified the benefits likely to be expected from an information service and gave a general picture of the elements which typically make up a defence information service. Planning a new service and making strategic changes in an existing one both require considerable attention. Among aspects to be considered are determining the needs of users, the security considerations and the resources required. Of great importance when running a service are the sources of information, handling information in order to provide the best possible service to users, and telling the user what is available; and the meeting considered all these aspects.

* * *

Comme pour tous les projets, une bonne préparation est essentielle pour le succès des services d'information. Le but de cette réunion était de donner des directives sur la capacité des services d'information, la préparation de leur mise en place et les ressources nécessaires à leur fonctionnement.

La Turquie, nation invitante, plantait le décor en décrivant la scène de l'information dans ce pays, et les autres communications présentées indiquaient les bénéfices qu'on peut attendre d'un service d'information, et offraient un tableau général des éléments qui, d'une manière typique, constituent un service d'information de la Défense. La préparation d'un nouveau service, tout comme la modification stratégique d'un service existant, nécessitent une attention considérable. Parmi les aspects à examiner, il y a la détermination des besoins des utilisateurs, des considérations de sécurité et les ressources nécessaires. Pour le fonctionnement du service, grande est l'importance des sources d'information, des traitements de l'information destinés à assurer aux utilisateurs le meilleur service possible, à leur dire ce qui est disponible; et la réunion a examiné tous ces aspects.

Accesion For	
NTIS CRA&I	☑
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and / or Special
A-1	

iii

CONTENTS

TECHNICAL EVALUATION REPORT

by

Miss Christine Walker
Head, Information Services Branch
SHAPE Technical Centre
P.O. Box 174
2501 CD The Hague
The Netherlands

1. INTRODUCTION

1.1 Background

This report evaluates the content and conduct of the AGARD TIP Meeting on 'Planning and Designing Effective Defence and Related Information Services' held on 10—11 September 1986 in Ankara, Turkey. The opinions expresed in the report are based on personal observations made during the Meeting and comments received from Mr Blados (Evaluator, Session I). Mr Tittlbach (Chairman, Session III), and other members of the TIP Panel.

1.2 Theme

The aim of the Meeting was to give guidance on the design of information services, the planning of their introduction and the resources required to maintain them.

2. CONTENT OF THE MEETING

2.1 Session I

The Host Nation set the scene for this session with a paper describing the status of information services in Turkey. The second and third papers identified the benefits of scientific and technical information services, and outlined a defence information service as seen by the user. All the papers were of interest to the audience. The discussion of Paper 1 highlighted problem areas common to many of the NATO Nations: financing, identifying a common information policy, satisfying a wide variety of users etc. It was interesting to note that there was no discussion of Paper 3, leading to the assumption that either it covered the topic comprehensively or perhaps that considering the users' viewpoint becomes of greater importance once an information service is installed.

2.2 Session II

Opening with a paper on determining the needs of users, Session II was devoted to detail about the planning of an information service in the case of both a new service and also when modifying an existing service. Strategic planning was covered by highlighting the example of the US National Technical Information Service (NTIS) in paper two and this was followed by a paper on security considerations. The Session closed with a detailed view of the resources required to run an information service. Discussion of the first paper was lively and set the tone for the Session as a whole. It is significant that the second paper elicited a discussion on the existence of an information gap (or gaps) implying that the process of strategic planning is apparently suitable more to the "information rich" than to the "information poor". The paper on security created a great deal of interest and is a comprehensive summary of considerations of security for a defence information service. Mr Müller's paper on resources was extensive and detailed and should perhaps be re-read at leisure.

2.3 Session III

This session covered the running of an information service including papers on: sourcces of information, grey literature, and user services such as announcement bulletins and computer-generated material. Discussion topics of the first paper ranged from indexing versus free-text searching, to online searching, gateway services and performance evaluation. Grey literature was an area of concern for both Turkish and foreign delegates and discussion of this topic led directly to the possibility of an international exchange of information when Mr Copor..o (NTIS) and Mr Salmon (LABORELEC) made arrangements to meet for further discussion. The final paper suffered a little from the poor visual aids but generated considerable interest in planning both manual and online searches, and also in SDI profiles.

2.4 Forum Discussion

Mr Molholm and Mr Breas organized the Forum Discussion most effectively. Using visual aids prepared in advance, they organised the written questions into clearly defined groupings:
- setting up an information service
- the value of information
- international exchange agreements
- security aspects
- products and services
- management of information services

The discussion was very well run and succeeded in keeping delegates' attention to the end.

3. CONDUCT OF THE MEETING

3.1 Physical arrangements

The location of the Meeting at Hacettepe University in Ankara was convenient and the hospitality of the Host Nation was greatly appreciated. It may be useful at future meetings to have a small notice board available to use for announcing administrative details e.g. alterations to the timetable, lunch arrangements etc.

3.2 Interpretation

The Interpreters did an excellent job. Speakers should be reminded to speak slowly enough to allow the interpreters to get the point of their presentations across. Unfortunately it was not possible to have interpretation into Turkish which would possibly have stimulated greater participation from Turkish delegates.

3.3 Participants

There were 139 registrations, including 89 from Turkish sources. A further 30 Turkish applicants were turned down because of limited space. 91 people attended: 47 from Turkey and 44 from other nations and NATO. There were 12 speakers and 32 Panel Members present. Numbers ranged from 90 at the start to 55 in the final session.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The standard of the papers was extremely high and was reflected in the high level of interest shown in the discussion periods. This standard was matched by the quality of the presentations with only a few minor instances of visual aids not being an aid and Speakers outstripping Interpreters. The object of the meeting was to provide guidance on designing an effective information service and the papers met the desired objective. Interest was expressed in repeating the theme, and possibly some of the papers, for other countries in the process of designing and introducing information services in the area of defence. However, one doubt about the success of the meeting for the Turkish delegates lingers. The 16 evaluation forms returned by non-Panel attendees gave overall assessments as follows: 1 Excellent; 12 Very Good; 3 Good, but the participation of the Turkish delegates in the discussions was not as extensive as one would wish. This may be due to a difference in approach to such discussions in general rather than the particular circumstances or subject of this meeting.

4.2 Recommendations

In order to encourage local participation in discussion, I suggest a slightly less formal approach may be useful on occasion e.g. workshops or smaller informal meetings before joining in a larger, more formal, Forum Discussion.

The Conference Preprints were regarded as very useful by all those who returned the evaluation forms. It is recommended that some form of printed copy of the papers continues to be provided to the meeting participants.

THE INFORMATION SCENE IN TURKEY

by

Col. D. Kaya
Department of Research and Development (ARGE),
Ministry of National Defence (MSB)
ANKARA -TURKEY

Dr. N. Tuncer
The Documentation Centre, Higher Education
Council (YOK)
Bilkent
ANKARA - TURKEY

Mrs. E. URUNDUL
The Documentation Centre (TÜRDOK), The Scientific
and Technical Research Council of Turkey (TÜBİTAK)
ANKARA - TURKEY

SUMMARY

After a brief overview of Turkish information scene and library system, the three important documentation centers, i.e. TÜRDOK, YÖK and ARGE are described in detail. General problems and shortcomings in the information process are discussed. Specificly, the lack of conciousness and appreciation of the importance of information is stressed.

LIST OF SYMBOLS

ARGE: Documentation and information section of the Department of Research and
     Development of the Ministry of National Defence.
TÜBİTAK: The Scientific and Technical Research Council of Turkey
TÜRDOK : Documentation Centre of TÜBİTAK
YÖK   : Yüksek Öğretim kurulu (Higher Education Council)

Turkey, of course, feels the impact of information form the bases of economic growth and social development, that it was through science and technology that the industrialized countries of today have reached their advanced stage; and that their economic predominance is due to information.

Even, for the last few years, there is a growing interest and tendency for setting up and developing of information/documentation centres, there are no well developed chorent policies yet in this area.

The existing information units are not linked to each other which prevents the rational use of available information.

Although, there is recently serious attempts in this respect, Turkey still lacks a national information network system.

Libraries as information centers have a long history in Turkey. Even before the Turks inhabited it, Anatolia, the crossroad of many civilizations, had many famous libraries. The libraries of Ephesus and Pergamum come into mind at once. On the other hand, Turkish people traditionally were interested in building libraries and collected numerous manuscripts. [1] Today, Suleimaniye Library in İstanbul houses nearly 120.000 invaluable manuscripts.

However, modern librarianship came late to Turkey and is still in the developing process. [2] The National Library, opened in 1948 and yet has nearly a million volumes, lost its leadership role for many years. Although there are 7775 public libraries with 35 bookmobiles, their services cannot meet the acceptable international library standards either. There are 28 universities (27 state and 1 private) scattered all over Turkey. In general, their libraries are also poor in collection or service. Only libraries like Middle East Technical University, Hacettepe University and Boğaziçi (Bosphorus) University can be considered modern by international standards. The special libraries, notably those of the Turkish Historical Society, the Chamber of Commerce, The Parliement, Marmara Scientific and Industrial Research Center and Çekmece Nuclear Research Institute are in better condition when compared with the governmental libraries. Recently, private sector has taken an active interst in building libraries and documentation centers. Parliament Library, some university libraries, a few special and governmental libraries have already computerized their cataloging, or serials or acquisitions.

Among the present availability of scientific and technical information centres, there are two important ones, both located in Ankara, which play significant role in the stimulation and support of research in the Country.

The Scientific and Technical Documentation Centre - TÜRDOK was established [3] in 1966 within the Scientific and Technical Research Council of Turkey - TÜBİTAK, which was established in 1963.

The purpose of the Council is to develope, promote, organize and coordinate basic and applied research in the positive sciences in the country.

The Documentation Centre TÜRDOK, was established to provide documentation services for supporting and contributing to the activities of the Council. But it soon became evident that nation-wide documentation services were urgently needed and that there were no such services existing in the country.

The result was that TÜRDOK had to transform itself to act as the national documentation centre and to expand its activities, services and possibilities accordingly.

Main objectives of TÜRDOK are:

- to facilitate the use of scientific and technical information produced in and out of Turkey in the field of pure and applied sciences, including industrial management and economy by all the sectors of Turkey, in the most appropriate and effective manner and time.

- to promote, encourage and coordinate information needs, activities and systems in the country.

In line with its objectives, titles of TÜRDOK activities are as follows:

. **Computer Based Information Service**

TÜBİTAK Information Retrieval System - TÜBES, offers online searching using several external data-bases, such as DIALOG, ESA, Infoline, BRS, SDC and Questel.

. **Document Supplying Service**

Which supplies copies or photocopies of journal articles, reprints, books, reports, meeting papers, theses and other documents publicly available anywere in the world.

. **Distributing NTIS Products and Services**

According to the agreement between NTIS and TÜBİTAK, TÜRDOK is responsible to distribute and sell NTIS products and services in TURKEY.

. **Scientific and Technical Data-base**

Works on storage of national scientific and technical database and unioncatalog of periodicals are continuing.

. **Training, Publicity and Consultancy Service**

In accordance with the researches, information services and information needs in the country, this service is given.

The second institution is part of the Higher Education Council (YOK), established in 1981. The Council's main objectives are: [4]

- Organize and coordinate the higher education in the Country

- Assure that minimum educational standards are applied in every university in Turkey

- By working closely with State Planning Office, coordinate higher education with the manpower needs of Turkey.

For improving the information situation in the universities and in general in Turkey, HEC established a documentation center in 1983, which was opened officially for public use in December 1984. The main purpose of the Center is to help the researchers in doing their researchs. One of the difficulties encountered by researchers was to procure the relevant document, especially when it was foreign. Due to economic problems during the 1970's in Turkey, budget cuts had affected the university libraries considerably, and many subscriptions were cancelled. Therefore, necessary articles had to be supplied from external sources, which had meant loss of time and money. In order to overcome this problem, at the Center, a large periodical collection, consisting of Turkish and foreign journals in all subjects and in many languages, was started. At present, the subscriptions total over 10.000 titles. Photocopies are supplied free of charge.

The second phase was to establish an on-line connection for well-known data bases in the U.S. and Europe, in order to help the researchers for their literature searches. Therefore, an agreement with DIALOG in the U.S. was made in 1984, and agreements with ESA and Infoline are still in process. Supported by the vast collection, now it became possible to supply the necessary documents immediately after the search.

Another service supplied by the Center is the reference service, through a multi-lingual, multi-subject and up-to-date collection. At present, it is only a nucleus, but in time, it is hoped to be one of the best of its kind.

The Center also has about 50.000 microfiches (ERIC documents) and some thesis. Future plans include to extend the collection by including more thesis and report literature, as well as filling in the gaps in the journal literature in the Turkish libraries.

DEFENCE COMMUNITY

On the military side, Documentation and Information Section of the Department of Research and Development (ARGE) of the Ministry of National Defence attempts to meet the scientific and technical information needs of the defence community. This section has a stock of 5.000 books, 15.000 reports, a few hundred microfiche and 50 current journals. There are collections of U.S., Canadian, German and British standards and specifications.

Its services include:

- Reference and loan facilities for books, journals and reports.

- A monthly digest of technical news drawn from national and international sources.

- Focal point for the distribution of AGARD documents in Turkey, depositors for SHAPE Technical Centre documents and some NASA documents.

There are two principal role which the Turkish Military authorities intend the Centre to have:

- As an information centre, serving the Department of Research and Development and the Department of Technical Services staff and a wider role as a scientific and technical information centre for the Armed Forces and defence industry.

At present, the Centre is not equipped to fulfill either of these roles. However, future plans include computerized services.

PROBLEMS AND SHORTCOMINGS

When tackling the question of information, we have of course started from the basic premise that information lies at the core of a sound science and research policy. Developments in science and technology ought to be easily accessible to the users, and circulation of information has become more and more important, mainly,

- To avoid overlapping,
- To maximize the utilization of existing technology,
- To prevent the waste of valuable time and money.

In Turkey, we have already accumulated a certain stock of resources, experiences, activities and attempts in the field of information.
All the available sources should rapidly be reorganized, coordinated and reoriented to serve the Country. This is a matter of organization before anything else.

As a result, the main problems in regard with information, can be outlined as:

The absence of information as a sub-sector in the national planning,

The lack of a plan for a national information system (i.e. Standardization, qualified manpower, survey of institutional and regional resources, R+D activities)

The absence of a coordinating authority and structure for the information system.

Actually, all of the above-mentioned problems are mainly the result of the lack of consciousness and appreciation related to all aspects of information.

CONCLUSION

Despite the shortcomings and problems involved in the information process in Turkey, at least the documentation and documentation centers have some capacity to serve the information needs of Turkey. There is no doubt that, as the information question is considered with due importance, and is planned on a national scale, the information scene in Turkey will improve substantially.

REFERENCES

1. Anameriç, Irfan, "Turkish Libraries: Historical Context",
   International Library Review, 16, 1984, p. 21-37

2. Kum, Dilak and Paulin Leppänen Erdoğan, "Turkish Library Developments",
   International Information Review, Libraries and Archives, 2, no.4, 1980, p. 272-279

3. 278 sayılı Türkiye Bilimsel ve Teknik Araştırma Kurumu Kuruluş Kanunu, Resmi Gazete, 24.7.1963,
   no. 11463, (Law Concerning The Establishment of the Scientific and Technical Research Council of Turkey,
   No. 278, Published and Promulgated on the Official Gazette date 24.7.1963, no. 11463)

4. 2547 sayılı Yüksek Öğretim Kanunu, Resmi Gazete, 6.11.1981, no. 17506, (Higher Education
   Act no. 2547, Published and Promulgated on the Official Gazette date 6.11.1981, no. 17506)

AD-P005 622

BENEFITS OF SCIENTIFIC AND TECHNICAL INFORMATION
SERVICES - FOR AEROSPACE & DEFENSE
by
Barbara Lawrence
Administrator
Technical Information Services, AIAA
555 West 57th Street, Suite 1200
New York, New York 10019

ABSTRACT

The benefits of having an aerospace and defense scientific and technical information service are considered based on an understanding of the literature of the field, the functions of a centralized information center, and the nature of the research and development process. These benefits, the savings of time and money and the improved quality of work, are only a potential until a well-managed service is established.

I. INTRODUCTION

The scientific and technical literature of aerospace and defense has its own specialized nature. The form of the literature, its long active lifetime, and its international and wide-ranging scope all characterize the documentation of our field.

These characteristics drive the information service needs and define the benefits of centralized scientific and technical information (STI) services for this community.

This discussion of the benefits of STI services is framed by a set of assumptions about the STI service. The model is a government-located technical information service for aerospace and defense. The primary user community is assumed to be government -- ministries of defense, national laboratories, and directly related participants, namely the contractors and grantees. There may also be secondary support to technical industry and academia. (Descriptions of several national services and other discussions of benefits and value can be found in previous AGARD/TIP conference proceedings (1)).

A strong scientific and technical infrastructure is important to the strength of a nation - especially in today's rapidly changing world. A strong scientific and technical information (STI) service is a key component of that infrastructure.

Thus the primary focus of this paper is to describe the benefits, both quantitative and qualitative, to government-supported research, development and engineering (RD&E) activities. The discussion appraises the benefits from three perspectives - the nature of the information, the role of centralized information services, and the RD&E process.

II. NATURE OF THE LITERATURE

The RD&E process is often assumed to be the same for all scientific and technical communities. My own experience in STI services for RD&E shows me that there are differences. In aerospace and defense RD&E these differences are reflected both in the nature of the work (large scale complex programs) and in the nature of the information. The first notable factor about this literature is that reports are the major information source in the aerospace and defense community.

Think about reports. They are designed for immediate use in an ongoing project or as the product of contracted work. As a result, reports have fewer references than the archival literature; they do not provide a thorough trail to related work. (They may not even identify other reports emanating from the same project!)

In addition, report literature is especially data-rich because it is designed as a repository document, rather than as a communication to the scientific community. This data resource is a major factor in understanding the importance of report literature, and a key to its value to the aerospace and defense community.

Reports are not truly published in the classical sense. They originate in a decentralized fashion, on no regular schedule, and their distribution may be restricted by security or proprietary classifications. Collection, therefore, requires a serious effort.

Distribution systems for reports are geared to meet the objectives of control and immediate use. They are not built for information retrieval. The system is usually a registry that implements the initial report distribution, which is to sponsors of the work and to others involved with the particular program. Beyond that, the registry system records information about the report; who issued it, when, and who received it. Without a technical information center there is no broad announcement to the scientific and technical community and no subject access.

The control requirements properly imposed on this literature inhibit the normal secondary processes of information transfer. One of these processes for open literature is the activity of an invisible college that often proactively distributes information to interested others, who were not on an initial distribution list. Another process, which works retroactively, is based on the presence of gatekeepers - who are local resource persons. They are valuable links to useful literature. Unfortunately these mechanisms are limited when security requirements or proprietary rights supercede the potential interest in content.

Another characteristic of aerospace and defense literature is its international scope. Using the NASA-sponsored resources (*International Aerospace Abstracts* (IAA) and *Scientific and Technical Aerospace Reports* (STAR)) as a sample, and I believe it is a fair one, the data show that in any year aerospace literature (reports, papers, theses, books, journals) comes from over forty nations. A chart of the 1985 distribution for IAA helps to visualize this concept.

INTERNATIONAL AEROSPACE ABSTRACTS

COUNTRY OF ORIGIN - 1985

NORTH AMERICA	44%
EUROPE	20%
SOVIET BLOC	21%
PACIFIC BASIN	12%
OTHER	3%

No nation can rely only on its own literature to provide for complete STI needs. A centralized STI service will help acquire, even through exchange, the information needed from other nations.

This aerospace literature not only has a wide international range, but represents the epitome of a *multidisciplinary* field. Aerospace is the classic mission-oriented information base. Again using IAA as a representative database, the breadth of the subject scope is shown by the following figures which cover 1980-1985.

IAA SUBJECT COVERAGE

Aeronautics, Astronautics, Space Sciences	30%
Chemistry, Materials, Geosciences, Physics	35%
Engineering, Mathematics, Computer Sciences	32%
Life Sciences, Social Sciences	3%

A further interesting aspect of aerospace and defense literature is that is has a particularly long lifetime. More than in other technical fields, both the old and the new are important. Reliability is critical. Proven methods and materials must be used, requiring older literature to be consulted, and so it becomes classic. This means that effective information retrieval services are necessary. On the other hand each nation strives to maintain an economic or military edge, and so forefront *developments* come into play. Current literature, and thus the current awareness services provided by STI centers, is important too.

To demonstrate the age range of aerospace literature we examined the references in single issues of two representative journals. The AIAA Journal is our flagship research publication; the Journal of Aircraft is more application-directed. The age distribution of the cited literature is similar for both periodicals. Over 40% of this cited literature is current, yet a third is older *than ten years. In* fact, for the Journal of Aircraft, one-fourth of the references were to literature over twenty-five years old.

	CURRENT 5 YRS	5-10 YRS	>10YRS
AIAAJ	42%	27%	31%
J AIRCRAFT	44%	22%	34%

What do these characteristics mean? The literature of aerospace and defense may be hard to collect, but has great technical depth. It may not be designed for long term use, but has tremendous long term value. Therefore a national technical information center which has the expertise to distribute, disseminate, acquire, control, manage and retrieve this literature provides a real benefit to that nation.

There are some ways to measure the quantitative benefits that *reflect hard financial savings from* the reading of reports. These studies, done by US government agencies in recent years, measure personnel-*time saved and duplication avoidance, not to mention* identifying intangible benefits (2). The surveys were extrapolated based on an understanding of the number of scientists and engineers funded by the agency, the number of reports read, the cost of providing the information services, the cost of R&D funded by the agency, and the reported cost savings. It is impressive that the lowest figure for savings per report read is $1000.

$ SAVINGS per REPORT READ

DOE	NASA	DOD
1280	1000	4700

III. CENTRALIZED INFORMATION SERVICES

Centralized information services provide two classes of function, information management and information service. The details of these functions will be described in other papers in this conference. An abbreviated model of the information center is then:

INFORMATION CENTER

INFORMATION MANAGEMENT	INFORMATION SERVICE
Acquisition	Retrieval
Storage	Question-Answering
Control	Current Awareness
Dissemination	User Education
System Development	

The benefits of the information management function may be viewed as providing for a synergy among systems. These are efficiency benefits.

For instance,a central acquisition function may:

- Identify information already in the nation;

- Avoid duplication of acquisition and system development;

- Arrange favorable purchasing agreements;

- Arrange international exchange agreements

A simple problem in acquiring international information can be the gaining of swift customs approval. A South American refinery found that it saved months in the receipt of journals by having the library subscriptions shipped to an organization in Miami, Florida that specialized in assisting with customs clearance. Another simple and frequent problem is the speed and cost of postal services. The American Institute of Aeronautics and Astronautics (AIAA) has its European journal subscriptions mailed to a London office, which then air freights them to the U.S. on a bi-weekly basis. Only a centralized service can organize to achieve these benefits; individual subscriptions will take the normal route.

The benefits of the information _service_ aspects of the center are qualitative, effectiveness benefits. Good center managers understand its users and give them what they need - with the right measure of completeness or precision for their particular need. An effective retrieval system can focus appropriately, without the biases or limits of the informal network approach. (At its best, the two mechanisms work together.)

Educating users about the value of information in support of the RD&E process, and training them to use the information services is an important aspect of an information center's activities. The service and the users are more effective when the users know what is available and how to ask for it.

The glue between the two aspects of information center functions is the staff. Competent staff who know the collection, the systems, and the user needs are a most important element of a successful operation. They ensure that the information resource is built, and the users' questions get fast answers.

It follows, therefore, that one way to describe the benefit of a good information service is that it builds confidence among its users. This confidence, first of all, leads to increased use of the service. After all it is only worth using a service if the collection is good and the service is effective. And when the users have confidence in the STI service, opportunities are increased for the service to broaden the information acquisition through exchanges with other nations, or expanded input from industry and academia.

We see that the STI service provides qualitative benefits for the information resource that is so important in aerospace and defense. A technical information center that acquires, controls, disseminates and retrieves this literature effectively contributes to its nation's health.

IV. RD&E PROCESS

One way to look at the RD&E process is in terms of a cycle of information use.

CREATION

ASSIMILATION   PUBLICATION

INFORMATION

RETRIEVAL   ABSTRACTING
DATABASE   &
CREATION   INDEXING
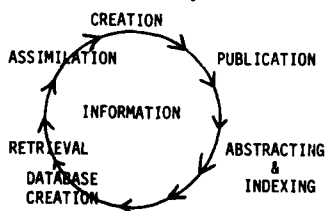
Another is in terms of the technical and scientific process:

requirement

needs definition

concept

experimentation/design

testing

evaluation

modification.

A scientist or engineer is working simultaneously on a specific program and also keeping generally informed about his or her knowledge-area. External information can be fruitfully applied to all phases of these processes.

An information service helps in the following ways.

INFORMATION USE	BENEFIT
Identifying work done before	Avoid duplication
Identify workers in the field	Save time, shorten learning curve
Acquire needed data	Avoid cost of over-design
Locate applicable methodology	Save time and money
Understand theory	Save time, generate ideas
Keep current, monitor trends	Enhance knowledge base, Prevent obsolescence

A good information service will maintain an ongoing process of evaluation of its effectiveness in providing the information that yields these benefits, and in measuring that value whenever possible.

V. CONCLUSION

A centralized information service in aerospace and defense will be beneficial if it is based on an understanding of the literature, the users, and the way the information is used.

A few of the risks of not having an information service are the cost of duplicated work, lower quality work, unstandardized work, and longer time to project completion.

To overcome these risks and build an effective information center requires a serious commitment. The benefits to the RD&E process are only potential benefits -- until a well managed service is established to reap them.

REFERENCES

1. The Use of Scientific and Technical Information in the NATO Countries. AGARD Conference Proceedings No. 337. Rome, Italy, 1982. Neuilly-sur-Seine. AGARD. 1982.

   The Value of Information as an Integral Part of Aerospace and Defence R&D Programmes. AGARD Conference Proceedings No. 385. Cheltenham, UK, 1985. Neuilly-sur-Seine. AGARD. 1986.

2. Roderer, Nancy K., Donald W. King, Sandra E. Brouard. The Use and Value of Defense Technical Information Center Products and Services. King Research. March 1983.

   Unpublished data supplied by U.S. interagency committee, CENDI.

A MODEL OF A DEFENCE INFORMATION SERVICE
AS SEEN BY THE USER

By

Barbara F. Aubrey
Directorate Scientific Information Services
National Defence Headquarters
Ottawa, Ontario, Canada
K1A 0K2

SUMMARY

This Paper describes the characteristics which make up a typical defence information service in the mid 1980s. In outlining its goals, organization, facilities and services, the differences between a defence information service and a traditional library are highlighted. As a systematic manager of information needed by a nation's defence community in support of research and development, this service has requirements over and above those of a library in types of information collected, in furniture and equipment, and in variety of services offered.

Services provided by defence information agencies in the identifying, acquiring, organizing, subject analyzing, announcing and disseminating of recorded knowledge are illustrated through a number of mini-scenarios describing typical situations in which a potential user of a defence information service may find himself. The paper concludes with some suggested areas, such as expert referral, where many defence information centres are expanding their services.

INTRODUCTION

A defence information service is, as its name implies, a service which provides to the defence community, both military and civilian, of a particular country or organization the information, both current and background, required to carry on its day-to-day activities and to plan for the future. It should not be confused with a traditional library which deals mainly with published information, because the bulk of material of interest to the defence community is in the form of unpublished technical reports often in a format other than paper copy and with security or proprietary restrictions. This obviously affects the operations of a defence information service in almost every aspect. This paper will consider the characteristics of a national defence information service serving the needs of a small to medium-sized country's defence community in support of research and development. The viewpoint is that of the user, who may be a scientist, planner, engineer, researcher, military or civilian officer or manager, contractor or other qualified individual.

CHARACTERISTICS OF A DEFENCE INFORMATION SERVICE

A national defence information service has most of the characteristics of a modern library: it holds in its collection books, periodicals, and conference proceedings. The bulk of the documentation handled by such a centre is, however, in the form of technical reports. These may be in paper copy or on microform and have security classifications up to Secret and in some cases Top Secret, or other limitations based on the requirement for a need-to-know, or reason why it would be beneficial to the originator to release the document in question to the requester.

As with a traditional library, the functions of a defence information centre are to identify, acquire, organize, announce and disseminate - in this case, defence-related information. Depending on the availability of external library services in peripheral subject areas such as management, personnel, training etc., its activities may be expanded into these fields as well.

Driven by its user community's specialized requirements, the services offered by the experienced information handlers staffing a defence information centre are numerous. The more visible, flashy reference services using video display terminals or microcomputers with hard copy printers to access millions of bibliographic and directory type records and perform complex permutations and combinations of terms and concepts are no more numerous than the behind-the-scenes tasks of verifying, acquiring and indexing items for the centre's collection.

This model will give a brief, user's-eye view of the various services both visible and behind-the-scenes of an information centre. Later papers in these proceedings will discuss each aspect in more detail, so this is merely an overview.

SERVICES PROVIDED

What services could you, as a new employee approaching your defence information centre for the first time, expect to receive from the experienced information handlers staffing your centre? The list is extensive but I have chosen a few mini-scenarios to give you an idea of the broad range of queries handled by a typical defence information centre:

Identification:

Example I

Problem:

You have just been appointed to a post as engineer in a pyrotechnics laboratory. This is a new subject area for you, and on your first day you discover that your supervisor is ill and will not be at work that day. He has left a note with his Secretary suggesting that you have a look at the Pyrotechnics Handbook published several years ago by BRL. You and the Secretary look in his office but cannot find the book, and neither you nor she knows what BRL stands for.

Solution:

You must start with your defence information centre! A visit to the centre on your first day is a good idea anyway. When you arrive, the librarian or information specialist of this model defence information centre will show you around and explain the vast range of services offered and procedures to follow. Because you have a particular problem, she will pass you to the Customer Services Specialist who will help you with this query.

This query is an example of "identification", one of the more visible functions of the model defence information centre. This trained information handler at the Customer Services desk, who is a senior clerk or library technician, immediately knows that BRL is the U.S. Ballistics Research Laboratory, and determines that the centre holds a copy through checking in the online catalogue. He refers you to a clerk who retrieves the item from the shelves and loans it to you for two weeks.

I have used the term "identification" to describe the initial procedure of becoming aware of an item of interest through reading a review or abstract, seeing the item referenced in a bibliography or hearing about it from a colleague. If the item is not held by the centre, identification also entails determining the full bibliographic details so that it may be ordered. The identification can take place either within the centre or through input from you the user of the centre.

There are two sub-tasks involved here - becoming aware of the item and obtaining its bibliographic details. The first can occur through reading review journals, subscribing to a Selective Dissemination of Information (SDI) service, scanning of publishers' brochures or library/information centre accessions lists. For each of these ways of becoming aware of an item, the second sub-task - the obtaining of its bibliographic details - is usually quite simple as in general, relatively complete information is provided in the review or listing. Whenever you have only partial information about an item identification can be extremely difficult. This task has been made less onerous in recent years for all information providers but especially for the small unit which cannot afford to invest in expensive reference tools. With the advent, in the late sixties and seventies, of automated retrieval systems available to those with sophisticated retrieval equipment capable of communicating with them, the first stage of easy access had begun. The eighties have seen the modernization of this equipment, improvement in communication links, and proliferation of databases and systems such that, with the expenditure of a relatively insignificant portion of even a small country's defence budget, a centre may utilize a microcomputer or terminal to access millions of records and perform sophisticated, complex searches to identify obscure references. With these modern techniques, you should be able to identify most references to published books, conference proceedings, unclassified journal articles, patents and formal US government documents. The identification or verification problems occur with limited distribution or classified technical reports, standards and specifications - those forms of information most common in a defence information centre. Experienced information handlers, however, have developed special techniques for determining appropriate channels through which to obtain many of these difficult-to-identify forms of information.

Acquisition

Example II

Problem:

You are again the new pyrotechnics engineer. A few weeks later you read in a new journal that BRL has just issued a revised version of the Pyrotechnics Handbook. You have found the old one very useful, but it is twenty years old, and new techniques have evolved.

Solution:

Another visit to your defence information centre with a copy of the reference to the new handbook! This time, because the publication is so new, and the centre has probably not yet ordered it, you are referred to the Acquisition Department. The clerk must first identify the item, but if the journal reference is complete, this may by sufficient. An order is generated and within a few weeks you have your new handbook.

Once items have been identified as desirable and not already in the collection, the defence information centre swings into a behind-the-scenes step in the build up of its resources - the Acquisition process. There are many ways of acquiring information resources - the traditional library method of purchase, either directly or through a jobber, is the most common for published books, conference proceedings or journals. Some journals are obtained as a result of membership in a society. In the

defence community many countries have signed memoranda of understanding or have negotiated agreements with each other which involve the exchange of defence information. Through these channels countries deposit in the other country's defence information centre copies of certain of their reports as they are produced, and regular announcement bulletins from which the recipient country may request other reports not sent on initial distribution.

Organization:

Exam e III

Problem:

You are a desk officer superintending the country's military aircraft research contracted out to industry. Your chief has received a query from an aviation historian who is compiling a history of an ill-fated experimental flying saucer-like aircraft developed during the nineteen-fifties by an aviation firm under contract to your government plus the US and UK governments. The firm ceased to exist over twenty years ago.

Solution:

Go to your defence information centre! There a reference librarian searches their catalogues and indexes under the name of the firm, the contract numbers, the names of each of the projects and experimental craft, authors who are known to have worked in the area and other appropriate subject terms. The reports are collected. As most of the work was classified or proprietary at the time it was written, you and the defence information centre staff member work together to sort the material by controlling agent - that is, the agency currently responsible for the security classification, proprietary information, or other limitation. You, as your country's authorized representative, can survey those documents originally produced solely under your government's authority. Others, however must be referred to the appropriate foreign government or aviation firm which took over the assets or responsibilities of the now-defunct company. Your defence information centre has contacts and experience in handling similar requests, so is able to process these requests for current security classification and release limitations. Between you, this request is handled as efficiently as possible given its complexity.

The first two examples dealt with activities of a defence information centre in order to obtain available information. Information you have obtained, however, is not of much use to the defence information centre if it is not organized in such a way that users of the centre other than the person who obtained it or for whom it was ordered are aware of its existence. This is illustrated in Example III. This organizational activity can be as simple as stamping the item and filing it on the shelf by author or source, or as complex as an automated on line cataloguing or indexing system with multiple access points and full abstracts, or any stage between. This model information centre does extensive subject analysis of the reports they receive, including the preparation of abstracts where the author has not done so, and inputs them to an automated system. The organization of the collection is thus highly developed.

Because of the limited availability of such defence-related literature leading to the inability to replace a document which is lost, many information centres find it useful to maintain a copy of all the documents in their collection on microform - usually 105 X 148 mm microfiche. The maintenance of a collection on microfiche has many advantages for the information centre: microfiche is compact to store, inexpensive to duplicate (both materials and staff time) and economical to mail. Many information centres also collect series of technical reports on microfiche. Although user resistance to use of microfiche continues to be of concern to information professionals, it is by far the most economical way to maintain access to a large volume of information. As well, modern microfiche reader-printers can produce paper copies as good or better in quality than the "original" which was filmed to produce the fiche.

Announcement

Once there is access to an item or to a number of items which make up a collection, the more visible aspects of a defence information centre's activities come to the fore. The first of these is announcement. If the organization of the collection is automated, it is a relatively simple matter to produce a regular listing, arranged as desired, whether it be by subject, source, author or some other method. Selective Dissemination of Information (SDI) services whereby a user's interest profile is compared against a tape of newly acquired or listed items, and a printout giving full bibliographic details for all which satisfy his subject requirements, is another highly visible service of this model automated information centre. If, on the other hand, the "organization" is in the form of unit catalogue cards filed by subjects, authors, sources, etc., an equally effective announcement bulletin may be produced by photocopying copies of catalogue cards for newly-acquired items arranged appropriately. The simplest form of announcement service, given the availability of a photocopier, is to photocopy title and contents pages to circulate to interested clientele. This method has the added advantage of being applicable to items such as individual periodical issues which may not be separately indexed.

Dissemination

Dissemination tasks in a defence information centre include, among others, the highly visible activities of reference and document delivery services.

Example IV

Problem:

You are an officer in the directorate responsible for the administration of patents. You receive a query from a laboratory concerning the patenting of a technique for using monoclonal antibodies in the area of burn immunology. You suspect there may have been similar techniques already patented.

Solution:

Telephone or visit your defence information centre! A search of the subject databases by document type "patent", or the patent databases by subject will provide you with bibliographical details and often abstracts for patents in that subject area.

Example V

Problem:

have been asked to present a paper at an international conference. Your topic - military applications of artificial intelligence.

Solution:

Your first step is a visit to your defence information centre. There a librarian discusses with you the exact nature of your request, obtains from you suggested synonyms, specific authors and corporate sources working in the field. Ideally, you would then sit down with him while he interrogated the various databases. From references retrieved you tell him which look useful and from those you may find additional sources or subjects to search. The end result is a comprehensive bibliography with abstracts which you may use as a basis for your paper. Obtaining the items you wish to see in full form then becomes an Acquisitions function.

Reference services or user's services take many forms in different types of information centres. The query may be as simple as providing the address of a potential contractor, or looking up a term in a dictionary. It may however, be a detailed bibliography or state-of-the-art treatise involving developing complex search strategies and accessing databases totalling many millions of records, including the centre's own holdings. With the ready availability of communication networks, relatively low-cost equipment, and the development of sophisticated but user-friendly bibliographic services, this latter service is by no means unrealistic for even small information centres.

Document delivery functions in a defence information centre include the standard library activities of internal and inter-library loans. When countries participate in defence information exchange arrangements, the defence information centre is often the agency through which the country's defence documents are distributed among their exchange partners - another document delivery function. Because of the diversity of types of material in a defence information centre, for example technical reports on microform and standards and specifications collected in binders, document delivery activities in a defence information centre also include the provision of photocopies or microfiche copies in lieu of loans.

The foregoing sections have, through examples, briefly described the major working level activities carried on in a model defence information centre. This centre, however, would have no focus in providing services to its clientele without a number of managerial activities performed by the administrators of the defence information centre - both the managers within and the higher level staff to whom the head of the centre reports.

It is not the task of this paper to describe in detail the planning, the directing, the evaluating, the coordinating, the policy making or recommending that goes on behind the scenes of every library or information centre. They will be covered by later papers.

Other administrative functions which may have different emphases between a traditional public or university library and defence information centre are those involved with resource management.

HUMAN RESOURCES

The people you will meet in this model defence information centre include, as in a traditional library, both professionals (who are usually librarians or information scientists), and clericals or other office support personnel. There may also be semi-professional library technicians and micrographic technicians. In general you will find these staff to be highly competent because managers have found that, when selecting personnel for a defence information centre it is important that due consideration be given to the variety of tasks to be performed and the probability that insufficient staff will be allocated to the centre to be able to accomplish all these tasks with ease. The staff must therefore be flexible, have initiative, and above all be responsible. This last characteristic is especially relevant in a defence information centre because of the possibility of international implications should a security breach occur.

PHYSICAL RESOURCES

As is the case with any library or information centre, if a defence information centre is to serve its clients adequately in all aspects of information handling, its location will have been

chosen with care in order to optimize the conditions of adequate space for its collection with room for expansion, seating and study areas for users and sufficient special purpose space for such equipment as computers, microfiche cameras, processors and duplicators and floor loading for book stacks and microfiche storage. In the model defence information centre, where much of the information handled is security classified, a user may find that the item or items he is particularly interested in are stored i a safe or vault, and accessible only to defence information centre staff. Open stack areas, which are found in many public and university libraries, are virtually non-existent in defence information centres, except possibly for books and commercial periodicals. This must be balanced against ease of accessibility for users of the centre.

In addition to location, an important fact in physical resource management is the provision of adequate equipment for full utilization of all formats of information. In this modern defence information centre, providing the full range of services to its clientele, you will see at least one photocopier, microfiche reader/printer, several microfiche readers, at least one video display terminal/printer, several electrical/electronic typewriters or word processors, possibly a mini- or one or more micro-computers, a microfiche camera, processor and duplicator, a collection of books, reference tools, research journals, technical reports in hard copy and/or microfiche, standards and specifications.

FINANCIAL RESOURCES

These will be covered in a later paper but to state briefly: Because of the number of exchange arrangements through which documents are deposited in foreign defence information centres with relatively little or no money changing hands, the proportion of a defence information centre's budget spent on the collection is significantly less than in a traditional library. This fact should not be taken by administrators as a justification to cut their centres' total budget because, as I am certain my fellow information handlers will agree, the money not expended on the collection is more than eaten up by that required for specialized equipment and extra staff time needed to identify "hard-to-find" references.

NON-TRADITIONAL SERVICES

Many defence information centres have expanded their services into non-traditional areas. Expert referral, the maintenance of a file (either automated or manual) of areas of expertise to which users may be referred for more detailed knowledge and assistance with their queries, is one; editorial assistance in the production of technical reports is also provided in many centres; still others act as centralized agencies for preparing or arranging for translations of sci/tech publications.

CONCLUSION

In his "futures" book "Megatrends" first published in 1982, John Naisbitt stated that scientific and technical information was increasing at the rate of 6 to 7,000 articles per day, or 13 percent per year, which means a doubling every 5.5 years. With statistics such as this, it takes no expert to see the necessity of a centralized information handling mechanism in any organization, whether it be a small company or a country-wide defence community. You, as a user of defence scientific and technical information are encouraged to make the fullest use possible of your defence information centre, to use whatever influence you have to improve its funding and to broadcast its services among your uninitiated colleagues.

References

1.   Canada. Council of Federal Libraries. Readers' Services Committee. "Basic Readers' Services." Ottawa, National Library of Canada, 1979.

2.   Leitch, D.M. "Organization and Management." In: AGARDograph No. 235: Manual of Documentation Practices Applicable to Defence-Aerospace Scientific and Technical Information, Vol. IV. Section 11. Neuilly-sur-Seine, AGARD, 1981.

3.   Naisbitt, John. "Megatrends: Ten New Directions Transforming Our Lives." New York, Warner Books, Inc., 1984, p. 16.

USER NEEDS AND HOW TO DETERMINE THEM

by

G.M.Breas
Director
Scientific and Technical Documentation
and Information Centre of the Armed Forces (TDCK)
Postbus 90701
2509 LS The Hague
The Netherlands

During the process of establishing and running an information service it is essential to have a good knowledge of user needs. There are several ways of looking at user needs and several methods of determining them. This paper deals with three ways of studying user needs and the accompanying ways to determine them.

1.   First, when planning and designing an information service, one has to know the potential users. This may seem obvious, but in the case of a Defence Scientific Documentation and Information Service one can see a large number of user groups, each having specific terms of reference and thus also having specific information needs. Although not every country organises its Ministry of Defence in the same way I think the Dutch situation can be used as a good example:

The Ministry of Defence is organised in four main parts as follows:

(1)   The central part of the Ministry of Defence
(2)   The Royal Netherlands Navy
(3)   The Royal Netherlands Army
(4)   The Royal Netherlands Air Force.

The information required by the first part is broad-based and consists of national and international political material. In the other parts more specific information is needed, but still broad in definition. If we take a closer look at the four main parts of the organisation we see that they each consist of sections dealing with such subjects as

(1)   General Staff
(2)   Materials
(3)   Personnel
(4)   Finance.

This subdivision can be found in every larger or smaller part of the Ministry of Defence where it defines the user needs of that group.

It is thus of great importance to have a good knowledge of the organisation. This defines the outline of the user needs of that organisation.

Once the information service has been established, it is important for it to be kept informed about any changes in national and international defence politics and their consequences for the organisation of the Ministry of Defence. In this case, the user needs are determined from information coming from the staff of the Ministry, from Parliament, etc.

2.   The second way of looking at information is to study the information itself. Here the following points are important:

(a)   What information does the user need? This can be subdivided into two:

(a.1) The user is responsible for a part of the policy of his organisation and can determine a permanent information requirement.

(a.2) The user (or group of users) is employed on a project and has a requirement related to a specific subject e.g. information on the design of a new generation of armoured vehicles etc.

(b)   In what form is the information needed? One can think of:

(b.1) Online retrieval systems

(b.2) Periodical bibliographic information supply

(b.3) Selective dissemination of information

(b.4) Special bibliographic information supply on specific subjects on demand

(b.5) The supply of documents (articles, reports, books, etc.)

(c) How urgently is the information required? Asking questions and receiving answers by mail is the most common method but it sometimes takes a long time. With online access to the information service database the user can quickly find bibliographic data relating to the information but the documents still have to be sent by mail. Online document delivery could be the answer but it is expensive. It is however important that the information service collects the documents for distribution purposes, particularly in the case of documents produced by its own organisation, which should be collected centrally to be supplied when needed.

(d) How much fundamental information is required? A more thorough selection of information is more difficult to supply. This point greatly influences the running of an information service and it is difficult to determine these specific user needs.

The methods that can be used to define user needs are:

(a) Using questionnaires. It is important that these are sent to a comprehensive selection of the population. A good knowledge of the organisation is required.

(b) Once the information service has been installed, details of clients' requests for information need to be continuously monitored and analysed by statistical methods. These methods are usually simple and consist of counting the data collected.

(c) Make contact with individual users or representatives of homogeneous user groups to determine their needs and their plans for the future.

(d) On-going evaluation of the appreciation of periodical bibliographic information supply or the selective dissemination of information by periodical questionnaires.

3.   The third way of looking at user needs is through the form of the information. When planning an information service it is important to know how the user wants his information. In many cases the library is the most relevant place for the user to get his information, documents or copies of articles. In cases where the organisation is decentralised, such as the Ministry of Defence, it takes time to get the information and the documents. Online access to the database, or to more than one database, is a good solution to part of this problem. The rapid delivery of documents via online connections is still under development.

However, once the users have online access to the database of the information service, the problem is to determine the user needs. Such systems usually only give details of the connection time and the number of documents accessed. Information about the kind of information sought is not available. In our centre we cope with this problem by

(1) demanding periodical feedback

(2) sending questionnaires

(3) organising workshops.

I believe that this problem only exists for information services such as ours, unlike very large databases such as Chemabs which collects all available information from throughout the world.

I would like to finish by concluding that there are many ways of determining user requirements. It is important to have a knowledge of the organisation for which the information service is designed. Questionnaires, simple statistical methods and good contact with the users are all necessary to obtain information about user needs.

STRATEGIC PLANNING PROCESS AT THE NATIONAL TECHNICAL INFORMATION SERVICE

Joseph F. Caponio and Donald S. Budowsky
National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161   USA

Summary

External trends, such as growth of the information society, the increasing economic value of information, the growth of research and development funding, and advances in automation, have dictated the need for information services to have a strong commitment to strategic planning. This paper describes these trends and outlines the strategic planning process at the National Technical Information Service (NTIS).

Initially resisted, strategic planning has become an important component of the agency management system. In recent years the planning system has been linked with performance plans of key staff and with financial plans. Gradually involving all levels of management in the planning process has fostered better communication, a greater sense of participation, and a more systematic approach to our agency's operation.

Information Society

NTIS has recently developed a strategic planning process to prepare for the "information society." With the 21st Century approaching, futurists have been inundating the media with predictions. At the top of the list, most predict that by the year 2000, much of the world will be in a post-industrial information society where services play a larger role in the economy than do products. John Naisbitt in Megatrends says this service growth will be associated with areas designed to reduce the "information float," i.e., the time elapsed from the creation to receipt of information. Futurists see a fairly constant proportion of traditional service jobs, but a dramatic surge in the workers creating, processing, and distributing information -- the Age of Information.

In 1950, information-oriented jobs employed only 17 percent of Americans. Today, more than 60 percent work with information as programmers, managers, bankers, stockbrokers, accountants, teachers, clerks, and technicians. Of course, all employees need some knowledge to perform a job. The difference for professional and clerical workers is that creating, processing, and disseminating information is the job.

In the Industrial Age, capital was the principal resource. In today's society, capital has been joined by information as a competing strategic resource. The founder of a semi-conductor firm has described his industry as a "...brain-intensive...rather than a capital-intensive one." Our society is mass-producing information, which has become a driving force in our economy.

This information-intensive resource is renewable, self-generating, and creates a multiplier effect as indicated by the following:

  o 6000-7000 scientific articles are written daily.

  o Scientific and technical information volume increases 13% annually
     (doubling every 5.5 years).

  o The annual S&T volume increase could jump to 40% annually
     (doubling every 20 months).

Three key points should be emphasized:

  o Twenty-five percent of the U.S. Gross National Product is produced in the
     Primary Information Sector.

  o Users who can locate information will pay for it.

  o Emphasis should shift from supply to improved selection. Custom-designed
     information products for individual users will be the wave of the future.

Economic Value of Information

A recent study assessed the value of the Energy Data Base of the Department of Energy. When the study was performed, the Department was spending $5.8 billion annually on research and development of defense, nuclear science, basic research, and other program areas. A survey of 60,000 scientists and engineers showed that:

  o They read approximately 7.1 million journal articles and approximately 6.6
     million technical reports annually.

o The 13.7 million readings included 2.5 million in defense, 2.2 million in nuclear science, 3.0 million in basic research, and 6.0 million in other areas.

o These scientists and engineers indicated recent readings led to savings of time and/or equipment.

- Average savings per reading of journal articles of $590.

- Average savings per reading of technical reports of $1,280.

o Total annual savings attributable to reading by Energy-funded scientists and engineers was established to be $13 billion dollars.

This suggests that an investment of $5.8 billion, which includes $5.3 billion for the generation of the information and $500 million for processing and use, yields a partial return of about $13 billion in terms of savings to scientists and engineers in their time and equipment.

A similar study of Defense Technical Information Center products and services yielded comparable results. In 1982, the Center distributed about 1.1 million copies of Defense Department technical reports, valued at $367 million. Users indicate they have saved $37.5 billion by the use of these reports--100 times the cost.

Research and Development Funding

NTIS deliberately adopted strategic planning to manage an information explosion caused by vast increases in U.S. Government research and development funding, now at an all-time high. In FY 1986, Government funding for research and development is estimated at $59.7 billion. This is more than a $6 billion increase above the 1985 level. The $39.4 billion military-related R&D budget comprises almost two-thirds of the total. The support for the conduct of basic research, included within this total, is estimated to increase by 1 percent to $7.9 billion in FY 1986.

Planning Becomes Critical

Soon we will be in an environment where the sheer volume of available information requires selectivity. The information volume, growing familiarity with direct computer access, and the shortening of time between generation and consumption of information will have major impacts on acquisition, indexing, announcement, and distribution services. The organization structure, workflows, and staffing patterns of an organization functioning in such an environment would be quite different from that of the mid-1980's. This certainly dictates the need for a strong commitment to strategic planning.

George A. Steiner, author of <u>Strategic Planning</u>, defines strategic planning from four points of view.

1. Planning is concerned with the future consequences of present decisions. Strategic planning examines the chain of cause and effect events over time resulting from an actual or intended decision. Planning also examines the alternative courses of action open in the future.

2. Strategic planning is a process of establishing organizational aims, defining strategies and policies, and developing detailed plans to make sure that the strategies are implemented.

3. Strategic planning is an attitude, or a way of thinking, more than a rigid set of processes, procedures, structures, or techniques. For the best outcome we must believe strategic planning is worth doing and must want to do it as well as possible.

4. A formal strategic planning system links various types of plans: strategic or long-range plans, medium-range plans and programs, and short-range budgets and operating plans. These linkages translate top management strategies into current decisions. The notion of a planning structure is expressed in this definition: Strategic planning is the systematic and formalized effort of an organization to establish purposes, objectives, policies, and strategies and to develop detailed plans to implement policies and strategies to achieve objectives and basic organization purposes.

The Strategic Planning Process at NTIS

To prepare for the future, NTIS established an Office of Policy and Planning and implemented a strategic planning system in March 1982 with the assistance of a contractor. The approach was elaborate and detailed. Multiyear program element plans were developed for each office and for each project information product. Often the approach was "blue sky." There was some guidance from the top, but the approach was essentially "bottom up."

With the advent of new leadership, a management reorganization, and the rapid evolution of new information technologies, top management placed greater emphasis on strategic planning. In January 1984, the Director established a Strategic Planning Management Team to collect and analyze data on trends and to develop a consensus on agency goals and objectives. The Deputy Director managed the team project, which was coordinated by the Director, Office of Policy and Planning.

The team assembled and reviewed an assortment of planning information, including Commerce Department goals, NTIS FY 1983-84 Strategic Planning Objectives, and existing NTIS planning documents. The Department's planning system provided a framework for the NTIS planning exercise. NTIS' activities were encompassed by the following Departmental goal and subgoals:

Stimulate Productivity, Economic Recovery, and Growth

o Provide technological information, products, and services to meet the major long-term needs of U.S. industry.

o Promote the development and application of science and technology in U.S. business and industry.

Early discussions of the team focused on terminology and definitions for goals, objectives, and strategies. In early February 1984, the group developed one all-encompassing goal and seven supporting objectives. During the next two months the group members made presentations illustrating proposals for implementing the appropriate objectives in their area of responsibility.

Next, the planning material, which was still in draft form, was consolidated for review at a Management Retreat in Shepherdstown, West Virginia in May 1984. At the retreat, second-level managers became more involved in the planning process. A group process was applied to develop and rank a final list of goals and objectives. This activity produced a list of 15 goals and more than 20 objectives. The Office of Policy and Planning reviewed the list and reduced the number of goals and objectives through a merging process. After incorporating recommendations from senior managers and their staff, the number of goals was reduced to 11; the number of objectives to 20.

In an effort to lessen the planning burden, each of the five Associate Directors, the Office of International Affairs, and the Office of Policy and Planning were required to prepare action plans. This was a substantial reduction from the previous 1982-1983 effort which required plans for each major product and all offices -- more than 30 plans. The format was also streamlined to include only the following essential elements: Objective, Strategies, Gantt Chart with milestones and dates, and Additional Resource Requirements.

After some discussion and debate, the format was modified to require information on additional resources, i.e., operating and staffing costs exceeding those budgeted in the fiscal year 1985 financial plans. In September, the Office of Policy and Planning coordinated the final actions in the strategic planning process. The staff reviewed seven action plans for format and substance, recommended revisions, and cleared the revised plans for the Deputy Director's review. The Office then prepared an Executive Summary and distributed 30 sets of the action plans to senior staff and other interested parties. Throughout NTIS' planning history, the Office has monitored the plans and accomplishments on a quarterly basis and coordinated an annual updating exercise.

In 1985, NTIS' Executive Steering Committee reviewed the existing NTIS goals and objectives, making minor modifications. These 1986-90 goals and objectives are shown in Appendices A and B. Greater emphasis was placed on making the strategic plans consistent with the financial and performance plans. Milestone charts were automated to facilitate monitoring, reporting, and updating. This year NTIS is in the process of developing realistic program plans to guide its operations, linking these plans with the performance plans of key staff, and connecting program and performance plans to financial projections and budget plans.

Evaluation of NTIS Planning Efforts

The planning experience at NTIS has produced mixed results. Initially, some employees resisted the introduction of a formal planning system, especially when practiced by a consultant. Others regarded it as an annual ritual producing reams of paperwork. At the outset it was essentially a "bottom-up" exercise. After a recent review of NTIS planning documents, Colonel Alan L. Gropman, a U.S. Air Force planning expert, observed that there is the "...lack of a visible tie between your NTIS goals and the objectives..." of certain offices.

However, over the years the strategic planning process has evolved and steadily improved to become part of the management fabric in our agency. Top management has placed greater emphasis on planning and its linkage with the financial planning and performance appraisal systems. Each major unit updates its plan annually, and most are rather conscientious about it. Involving all levels of management in the planning process has fostered better communication and a greater sense of participation.

A primary benefit of strategic planning is the actual process itself, rather than the results. Planning is more of a systematic approach and a way of thinking than a set of procedures. Improving the planning thought processes in our agency has been of great value.

Our experience has taught us that planning systems must be custom-made to suit the organization, its culture, and the personal styles and interests of top management. Different approaches have been used to complete various phases of the planning process. There is no single magic method. The planning process often follows an evolutionary path as it has done at NTIS.

REFERENCES

1. J. Naisbitt, Megatrends: Ten New Directions Transforming Our Lives, New York: Warner Books, 1982.

2. Donald W. King, Jose-Marie Griffiths, Nancy K. Roderer, and Robert R. V. Wiederkehr, Value of the Energy Data Base, King Research, Inc., March 1982.

3. Nancy W. Roderer, Donald King, and Sandra E. Brouard, The Use and Value of Defense Technical Information Center Products and Services, King Research, Inc., June 1983.

4. Special Analyses, Budget of the U.S. Government, FY 1986, Washington, D.C.: Government Printing Office, 1985, p. K-1.

5. DTIC 2000-A Corporate Plan for the Future, Defense Technical Information Center, July 1984, p. 6-3.

6. G. A. Steiner, Strategic Planning: What Every Manager Must Know, New York: The Free Press, 1979.

APPENDIX A

NTIS' 1986-90 GOALS

1. Achieve appropriate dynamic leadership in the worldwide technical information community, increasing the Nation's competitiveness and stimulating productivity and economic growth.

2. Gain recognition by key decision makers that NTIS is properly the lead Federal agency for the collection and retention of government sponsored scientific and technical information and for positioning that information in the U.S. economy.

3. Enrich the U.S. technology base by increasing the flow of foreign information into the United States.

4. Establish NTIS as a recognized national resource for the collection and permanent availability of government sponsored research and development reports.

5. Provide the widest range of technical information to the widest possible U.S. audience by determining current market needs and anticipating customer needs.

6. Improve the collection, dissemination, and licensing of Federally-owned patents and the transfer of other specialized technologies having potential application in state and local governments and private industry.

7. Establish NTIS as a primary multi-diciplinary source and first reference for technical information inquiries.

8. Provide leadership, encouragement, and technical assistance for government agencies to explore and develop their potential to produce and distribute information products and services.

9. Establish understanding and acceptance that NTIS prices its products and services to recover government costs involved in the generation, collection, and dissemination of scientific and technical information, all in the public service.

10. Establish NTIS as the lead agency for accessibility of machine-processable data in the U.S. Government.

APPENDIX B

NTIS' 1986-90 STRATEGIC OBJECTIVES

Office of the Associate Director for Administration

ADMIN-1: Provide the most cost-effective administrative services to all NTIS organizational elements in support of overall goals and objectives.

Office of the Associate Director for Bibliographic and Document Services

OBDS-1: Increase efficiency and effectiveness of NTIS operations by (1) reducing costs, (2) improving productivity, and (3) improving production delivery to customers through the application of the latest technology and management techniques.

Center for the Utilization of Federal Technology

CUFT-1: Improve the collection and dissemination of Federally developed technologies and resources having potential application in State and local governments and private industry.

CUFT-2: Improve the collection, dissemination, and licensing of Federally-owned patents.

Office of International Affairs

OIA-1: Improve the quality of and increase the quantity of technical information flow into the U.S.

OIA-2: Provide support and advice for U.S. foreign policy.

OIA-3: Increase the international awareness of the utility of the technical report literature and the role of NTIS as a prime source of this literature.

OIA-4: Acquire and effectively disseminate foreign industrial technical information, with special attention to information of Japanese origin.

Office of the Associate Director for Marketing and Customer Services

OMCS-1: Attract and retain a loyal group of customers through a unique combination of product, distribution, promotion, and price factors.

OMCS-2: Increase the number and improve the quality of educational programs.

OMCS-3: Increase the effectiveness of customer services interface with users to assure customer satisfaction and build goodwill.

OMCS-4: Support NTIS presence and participation in information community activities.

Office of Policy and Planning

OPP-1: Develop and maintain a strategic planning system.

Office of Program and Product Management

OPPM-1: Attract new sources, increase the quantity of information acquired from current sources, and improve technical assistance to those source organizations.

OPPM-2: Develop a more comprehensive and accurate database of ongoing research projects.

OPPM-3: Review all NTIS products and services and modify or develop new packaging techniques, where appropriate.

OPPM-4: Explore new technologies and new audiences.

OPPM-5: Continue to develop and maintain a Quality Circles program.

AD-P005 686

SECURITY CONSIDERATIONS
- DEFENCE-RELATED AND COMMERCIAL -

by

Lt.Col. Helmut Braun
Dokumentationszentrum der Bundeswehr
Friedrich-Ebert-Allee 34
5300 Bonn 1
Federal Republic of Germany

Summary

This paper addresses a number of topics associated with the
management and handling of classified documents and documents
under commercial confidentiality in a defence information
centre. In case of classified documents, the need-to-know
principle governs the procedures. Questions that need answers
are: Operate a classified data base or keep the data in it
unclassified? How to produce unclassified references to
classified documents? Which restrictions have to be observed
when using unclassified references to classified documents? The
restrictions imposed upon documents with statements limiting
their distribution are discussed, the difference between
'unclassified' and 'unlimited' is explained.

General Scope

The title 'security considerations' might cause a possible misinterpreta-
tion of the real contents of this paper. It covers some important aspects which
a documentation centre must consider in order to protect its documents and, of
course, the references to them, from disclosure to unauthorized persons and/or
organisations. It does not cover questions of data protection from undesired
data manipulation or destruction although, especially in a defence organization,
these questions are definitely part of physical security considerations.

Documentation is sure enough not an activity for its own sake - its objec-
tive is information. Information defined as reducing uncertainty or transferring
knowledge implies action. Whereas security in this context enforces counterac-
tion. The information specialist is interested in disseminating his information,
whereas the security officer of an information centre is convinced to have good
reasons to protect it from transmission. So the aim of a defense information
service must be to inform its authorized users as comprehensively as possible,
but to shield the available information against unauthorized access and misuse.

In a defence information system two different types of documents must be
considered, as far as security aspects are concerned:

- Classified documents, i.e. documents which bear a national
  or international security classification and therefore
  require special protection and handling, and

- Documents which contain commercially sensitive information,
  have a distribution statement, and therefore need a similar
  treatment.

I shall deal with the two types, referring to them as 'classified documents' and
'documents in confidence' (the latter term is supposed to cover the variety of
this species). It will be worth-while to devote a few thoughts to a third cate-
gory of documents as well: NATO Unclassified documents, which will undoubtedly
be found in any defence information system of the Alliance.

If we look at the usual type of documentation centre which maintains a
referral-type data base (and that is the type of system we are looking at) we
have to think of two more facets of security protection:

- Protection of the document itself and prevention of the
  unwanted disclosure of its contents, and

- Protection of even the reference to the document, where
  appropriate.

Thus it seems permissible to treat our problem area as four sectors of a circle,
whereby the combination of any of two adjacent sectors, i.e. each of the four
resulting semicircles, needs to be looked at separately:
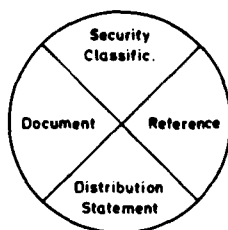
Fig. 1

It will be necessary to think about the use of references which relate to classified or commercially sensitive information in bibliographies, and of the possibility of including them in online searches or of excluding them under certain conditions. And on the other hand it will be necessary to establish procedures for the delivery of the respective documents. Very often documents which require protection because of their commercial sensitivity bear an additional security classification, a fact that adds to the complexity of the problem. Instead of the nice little drawing shown above we now have something like that:
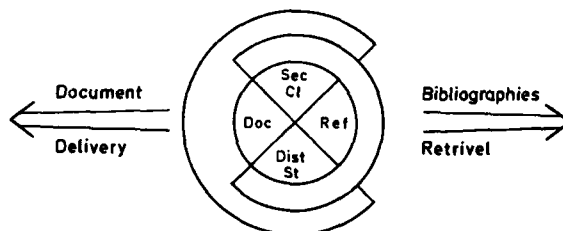
Fig. 2

No reason to get confused, though. There are distinct paths through this jungle, regulations to guide you and procedures to ensure appropriate practices and effective results.

Personnel Security and Physical Security

It is essential that all personnel within an information system, whose duties necessitate access to classified information, need adequate security clearance. This definitely applies to registry staff, indexers, and the personnel concerned with the storage of classified documents. It may also be necessary for typists, data entry personnel and personnel dealing with information retrieval in case of using classified data bases. You may also need properly cleared personnel within your reprographic services. Considering a military organization, actually all personnel working within the centre should be cleared to the appropirate security level. The 'authority to know', however, should be granted only to persons actually handling classified material.
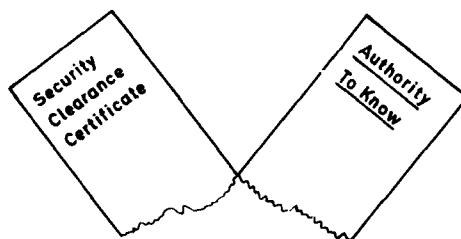
Fig. 3

National regulations cover these questions of personnel security, relating to the basic principles and standards laid down in NATO document C-M(55)15 "Security Within the North Atlantic Treaty Organization" (1). There is no need to go into further details.

The principal requirements for physical security (secure areas, control of entry, strong rooms, security containers, locks) are also laid down in the aforementioned NATO document. They have been specified in national regulations in great detail. The main aspects, as far as the scope of this paper is concerned, are building security, secure store room facilities for classified documents and adequate procedures to transmit classified information. No need to go into any more detail at this time.

Classified Documents

The term 'classified document' has been used until now without further explanation. Classified documents (or classified information in a wider sense, if photographs, charts, magnetic tapes, and similar material is included) contain information the unauthorized disclosure of which would result in serious damage to the originating country or, at least, would be undesirable to its interests. For NATO documents four security classifications have been defined, expressing gradual differences in the damage assessment in the case of an unauthorized disclosure. National regulations may differ slightly, but generally follow these outlines.

All classified documents bear an appropriate security marking according to their contents. In the case of NATO documents these markings are

NATO RESTRICTED - NATO CONFIDENTIAL - NATO SECRET - COSMIC TOP SECRET

in ascending sequence. Appendix A, extracted from an earlier AGARD publication (2), gives a side-by-side listing of NATO and national security gradings.

In order to ensure accurate and precise security markings, NATO regulations call for individual marking of clearly identifiable parts of complex documents, if they are of various levels of classification or of no classification at all. Thus, a document marked 'NATO SECRET' as a whole may well have an unclassified title, followed by an unclassified summary, several paragraphs marked 'NATO RESTRICTED' or 'NATO CONFIDENTIAL', and annexes or appendices of different security gradings. The sample below shows a NATO CONFIDENTIAL document with both an unclassified title and abstract, a first paragraph being NATO Restricted, and a second one, NATO Confidential:

```
┌─────────────────────────────────────────────────┐
│              NATO CONFIDENTIAL                   │
│                                                  │
│                                                  │
│               Title of              (NU)         │
│               the Document.                      │
│                                                  │
│      Summary:  ----------------------   (NU)     │
│                ----------------------            │
│                ----------------------            │
│                                                  │
│                                                  │
│      Para 1: ------------------------------ (NR) │
│             -----------                          │
│                                                  │
│                                                  │
│      Para 2: ------------------------------ (NC) │
│             -----------------------------        │
│             ----------------                     │
│                                                  │
│                                                  │
│              NATO CONFIDENTIAL                   │
└─────────────────────────────────────────────────┘
```

Fig. 4

This procedure has shown to be extremely helpful in the documentation process. Unfortunately, corresponding regulations have not been included in national regulations (at least not in the Federal Republic of Germany).

Access to classified information is confined to people whose duties make such access essential. The classical 'need-to-know-principle', established in NATO regulations and utilized in all NATO nations, governs access to classified information. Rank, appointment, and security clearance will not merit access without a need-to-know.

Why include classified documents in your information system, if there are quite a few inconveniences involved in handling them, and their proper handling requires extreme caution, specially trained staff, and the observance of numerous regulations? There is good reason to undergo all this trouble, because

- classified documents most likely contain valuable information,

- the initial distribution of classified documents is normally limited to a few recipients only,

- knowledge of the existence of classified documents is not available to people who might have a need-to-know in the future.

These three reasons are well supported by the results of the study on the "Use and Value of the Defense Technical Information Center Products and Services" in 1983 (3). Under the necessary security considerations, a defence information system definitely should include classified documents in its holdings and make this information available, whenever it is appropriate.

Classified or Unclassified Data Base

The answer to the question as to how to proceed when incorporating classified documents in the holdings of a defence information system, depends totally upon the decision whether you want to operate a classified data base or whether you prefer to stick to an unclassified one. If full text storage of your documents is intended, this decision has obviously been taken already. But if you prefer to operate the usual referral type database, whereby you store a reference (a substitute) for each document, this decision must be taken.

In case of a classified data base, management should provide triple security arrangements: conventional arrangements, conceptual precautions, and data-processing provisions. Conventional arrangements include infrastructural concepts for the data processing areas, entry control to them, and other aspects of physical security. Conceptual precautions have to be part of the overall system layout. The necessary provisions for electronic data processing range from reliable procedures for user identification, a positive authorization for the access of the data base (or part of it), granting authority to carry out searches, the authority to see all or only part of the references, and initiate a print-out of the result. Depending upon whether searches are carried out only by personnel within the physical area of the centre or from outside there may be the need for safe transmission lines and cryptographic equipment. All these elements must be well coordinated and must complement each other (4). The decision for the operation of a classified data base is not so much a question of technical realization. Costs for operating it must be evaluated and taken into account for the long-term planning.

Of course there are - as in most cases - some suitable 'as-well-as' solutions: You may think of a data base containing classified and unclassified references. Access to the classified references may be restricted to terminals within the centre, whilst all unclassified information may be accessed through remote terminals form outside. In this case searches for classified references are carried out by personnel of the centre. Identified information may be screened properly and checked against the need-to-know of the user prior to dispatch. Or a well defined user community might access such a data base via dedicated lines and have access to all references, unclassified and classified, whilst other users - through their dial-up capabilities - get only access to the unclassified references (5).

If the decision for an unclassified data base is taken, the problem of incorporating classified documents in the holdings of the centre concentrates on the question how to produce an unclassified substitute for a classified document in order to keep the data base unclassified.

Unclassified References To Classified Documents

There are certainly several ways to solve this task. The following procedure is one possible method, the method we use in the Federal Armed Forces Defence Documentation System. You will realize that in our system documents classified 'TOP SECRET' are totally excluded from documentation. I understand that this applies to the documentation systems of other nations as well.

The substitute for any document - whether unclassified or classified - must feature enough details to allow a successful search for the document. And it

must express enough information for the user decision to order the document, if
the user needs it. So the reference will include at least the originator of the
document, the document title, pertinent bibliographic details (date of origina-
tion, length of the document, language, country of origin), and an abstract. The
reference as a whole must be unclassified.

Most suitable to do the job is - of course - the author himself, or the
originating agency. If they provide an unclassified substitute together with the
classified document there are certainly no problems in the further processing.
If this procedure, whereby unclassified substitutes are to be delivered by the
author / originator, cannot be enforced (as is unfortunately the case in the
Federal Republic) things become much more difficult.

If the classified document bears individual security markings for - let's
say - the title and a summary, and both of them happen to be unclassified, there
is normally no problem for an indexer to produce the required unclassified
reference. If, however, these clues are not forwarded by the author/originator,
the indexer has to be most careful not to include details in his reference which
might contain classified information. It takes sound knowledge, though, to
decide, for example, whether specifying the frequency band of a radar set in the
title, makes this title classified or not. If there is doubt about it, there is
no way but to check with the author. If the title contains classified informa-
tion, it must be altered accordingly (we call it a 'fake title').

Document   Reference

NATO SECRET		UNCLASSIFIED
	→	
NATO SECRET		UNCLASSIFIED
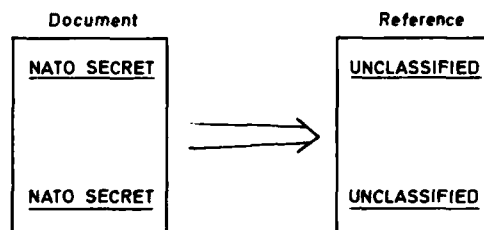
Fig. 5

The same applies to the abstract produced from a summary provided by the
author. The indexer will principally give as much information as possible
without disclosing any classified information. Therefore, the unclassified
abstract relating to a classified document will in most cases be of a more
general nature, will use an indicative style, omit giving facts and results.
Indexing normally causes no extra difficulties.

Whether to state the security marking of the document in the reference in
clear-cut terms or in code must be considered as well. It is essential, however,
that an appropriate marking is included. This facilitates the exclusion of
references to classified documents in file searches, if so desired.

This procedure, described in some detail, is well within security regula-
tions. NATO regulations state quite clearly that 'references to classified
documents will not be classified unless the reference itself contains or reveals
classified information'. If national regulations approve of this principle,
there is no reason not to follow on these lines.

Use of Unclassified References

In principle, there is no restriction to using unclassified references to
classified documents in unclassified bibliographies or abstracting journals.
However, it is well worth considering either a controlled distribution of these
listings, limited to a well-defined user group, or to give them an appropriate
security grading. The question whether to disclose the security classification
of classified documents to the user or not is of practical importance and should
be well considered. Not revealing it, may lead to document orders by users not
having the required need-to-know. These requests evoke administrative efforts,
and cause indignation with the user after refusal. Disclosing it, on the other
hand, might be considered an unnecessary security risk.

In the Federal Armed Forces Defence Documentation System at present only (unclassified) references to classified STC documents (documents, originated by the SHAPE Technical Centre) are included in our abstracting journals. These references are identifiable by insiders of the system as references to classi-fied documents. The user normally does not recognize this fact. The unclassified abstracting journals are distributed to a well defined user group within our armed forces, some copies also reaching defence contractors and other non-mili-tary agencies.

In our retrieval system references relating to classified documents are included in the printouts of online searches. Naturally, they may be excluded, if so desired. Here, once more, the question of a security risk might come up, especially if an online-community situated outside the centre is connected to the system and carries out subject searches. The responsibility for including or excluding references to classified documents must be clearly defined. Again, the user is not made aware of the references in the result of a search that refer to classified documents.

Another approach to the same problem is to include references to classified documents in the printout of the result of the search only, but not to display the substitutes on the display unit. Thus the result, including the references to classified information, is made available to the (known) user with the appro-priate need-to-know, whilst references to classified documents are concealed from any intermediary without proper need-to-know.

Document Storage and Delivery

Due to their sensitivity, classified documents will be held in a special collection. They will normally be stored in strong rooms under the control of the security officer and his staff. NATO and national regulations describe in great detail the specifications and rules which must be observed in the day-to-day administration of these documents. Questions dealing with the registration of classified documents, document control, inspections, and supervision are not part of this paper. The two interesting questions here are:

- How is the need-to-know ascertained?

- How are classified documents delivered to the user?

Users ordering classified documents are either military organisations (Headquarters, branches of the Ministery of Defence, for example) or civilian institutions, in most cases defence contractors. For all users the need-to-know must be ascertained. The safest way to do this is to refer each request to the originator of the document and ask for his approval. This, of course, causes considerable administrative efforts within the centre. Furthermore, a noticeable delay in the delivery of the requested document will be experienced. Not to mention the problems which are encountered when asking for the release of older documents (the originating agency will hardly remember what the contents of the document really is) or when trying to get a release for a document the origina-tor of which cannot be traced due to staff reorganization.

To avoid these inconveniences to a certain extent, in the case of the Federal Armed Forces Information System authority was granted to the Head of DOKZENTBw (Dokumentationszentrum der Bundeswehr) to release classified documents to military users, i.e. to establish the need-to-know in these cases. This high responsibility is well acknowledged; however, the signature of the commanding officer of the requesting agency and the rigid transmission procedures through special registries guarantee the necessary security.

For all other users, namely for the defence contractors, the need-to-know must be ascertained by the originating agency of the respective document. If the document was produced under contract by a civilian institution, say an industri-al corporation or a university, as is very often the case with technical report literature, responsibility lies with the MOD (Ministery of Defence) staff branch previously responsible for the conduct of the contract.

Whether a classified document is given to the user for a certain period of time or whether a copy is produced and sent to him for retention is mainly a question of practical consideration. From the security point of view, each extra copy of a classified document constitutes an additional security risk. On the other hand, if the only copy of a document held by the centre has been lent, and the document is needed urgently by another user, a fast call back for the docu-ment might cause quite some trouble.

Producing copies of a classified document is permissible. Pertinent conditions and procedures are laid down in NATO and national security regulations. The same applies to the transmission of classified documents. Classified documents must be transferred through registry channels using courier services wherever possible. Records are kept in accordance with regulations. So utmost control is exercised.

NATO UNCLASSIFIED Documents

Before leaving the problems related with the handling of classified documents in an information system, a few words about NATO UNCLASSIFIED documents. Documents marked "NATO UNCLASSIFIED" do not require security protection. They are not 'classified'. Nevertheless, they are to be released to non-NATO nations, organizations, and individuals only, when such a release would not be against the interests of the Alliance. The word 'NATO' is a marking which signifies that the document is the property of NATO.

```
┌─────────────────────────┐
│  NATO UNCLASSIFIED      │
│                         │
│                         │
│                         │
│                         │
│                         │
│                         │
│                         │
│                         │
│  NATO UNCLASSIFIED      │
└─────────────────────────┘
```
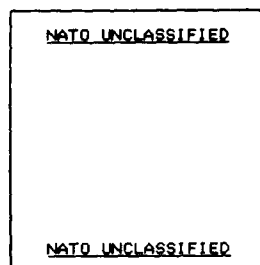
NATO:
This document is property of NATO

UNCLASSIFIED:
No security protection required.
Check carefully before release.

Fig. 6

So, a document bearing the marking 'NATO UNCLASSIFIED' is not to be given to everybody without proper consideration. The above mentioned principle applies.

Documents in Confidence

Apart from classified documents, a defence information centre receives many documents from various sources which also need special handling and protection. The main source for these documents are the defence contractors. Contractors carry out research studies on behalf of the Ministery of Defence. The results of these studies, for example technical reports, contain technical know-how and scientific findings. If such a report does not have any security implication, it does not carry a security classification, of course. Nevertheless, the information might be of high interest to a competitor because of its commercial value. Such knowledge might save years of research efforts and therefore much money. Proper handling of this type of documents requires practicable procedures, and a well trained staff.

Special care must be exercised if documents containing 'proprietary technical information' have been received from another nation. The NATO agreement on the communication of technical information for defence purposes (6) states:

"When for defence purposes, technical information is communicated by a government or organization of origin, to one or more recipients as proprietary technical information, each recipient shall (...) be responsible for safeguarding this information which has been disclosed in confidence. The recipient shall treat this technical information in accordance with any conditions imposed and take appropriate steps compatible with these conditions to prevent this information from being communicated to anyone, published or used without authorisation or treated in any other manner likely to cause damage to the owner."

And the implementing procedures (7) specify:

"All communications of technical information under the Agreement are made for information purposes only unless express consent is given to the contrary. The term 'for information purposes' in these procedures means for purposes of assisting in the evaluation of the technical information for defence interests only and without prejudice to any rights of the owner. This term does not include the use, duplication or disclosure, in whole or in part, for purposes of manufacture."

To protect such information from disclosure to unauthorized persons or or-
ganizations, a distribution statement is placed on each document. This statement
advises the centre on the conditions under which the document might be released
to the users. Distribution statements may be applied to classified documents as
well. In such a case, both restrictions for the release of the document must be
observed.

Unclassified or Unlimited?

Security classification and distribution statement serve the same purpose:
to protect the contents of a document from disclosure to unauthorized users. A
classified document automatically enforces a limited distribution, limited name-
ly to persons with the necessary need-to-know. But an 'unclassified' document is
not automatically suitable for an 'unlimited' distribution. To illustrate the
relation between these two terms, let me quote a few lines from the DRIC Leaflet
No 14 (DRIC = Defence Research Information Centre), which will clarify these
terms (8):

> "In Defence circles, if a document is not marked RESTRICTED
> or above, then it is UNCLASSIFIED; there is no lower security
> classification. Although UNLIMITED is often indicated as a
> security marking, it is strictly a distribution statement,
> and indicates that an UNCLASSIFIED document has been approved
> for release to the public. To warrant UNLIMITED distribution
> the document must conform to certain criteria. For example it
> must contain no matter which is objectionable on grounds such
> as policy, commercial security or adverse comment on commercial
> products. It must be clearly marked as being openly available,
> or bear a purchase price and have no restrictive markings.
>
> To sum up, an UNLIMITED report must be positively identified
> (and marked) as such or bear a clear indication that it is
> suitable for public release; all other UNCLASSIFIED reports
> must be treated as documents with limitations on their distri-
> bution."

Security classification and distribution statement are two distinct mat-
ters. They exist side by side and complement each other, although the term
'UNLIMITED' is often used on its own, as it necessarily implies UNCLASSIFIED.

Handling of Documents with Distribution Limitations

In contrast to the explicit and detailed security regulations for the han-
dling of classified documents, the procedures for the management of documents
with distribution limitations are less standardized. They differ from country to
country, and the text of the limiting remarks sometimes needs interpretation or
even calls for it.

The high responsibility which is entrusted to the information system re-
quires adequate handling of these documents to ensure proper protection. In case
of a violation of the entrusted privacy, the financial damage might well be
burdened upon the responsibility of the centre. Moreover, the lasting distrust
caused by such an incident might lead to the refusal to provide such valuable
documents to the centre in the future.

To ensure proper management of documents which contain commercial sensitive
information, it is up to the policy makers to promulgate unmistakable proce-
dures. It is the responsibility of the centre to comply with them, to protect
vital information from disclosure to unauthorized persons and/or organizations,
but to guarantee full and comprehensive information to all authorized users.

Two examples will illustrate the variety of documents with distribution
statements and their proper handling by an information centre. Both are fake
examples, however they show the day-to-day praxis in DOKZENTBw:

> - A document bearing the security marking 'VS - Nur für den
>   Dienstgebrauch' (the German equivalent to NATO Restricted)
>   carries the additional distribution statement 'Freigegeben
>   für Bundeswehr und Bundesbehörden. Freigabe für andere durch
>   ......' (document may be given to all Bundeswehr units and
>   official agencies of the Federal Republic. For other recipi-
>   ents, permission must be obtained by ......).

In this case, certain users as specified above may get the
document on decision by the centre, while for other users
permission must be obtainded by the authority given in the
statement.

- A report bearing no security classification and thus being
  'unclassified' (in Germany, we do not apply the marking
  'unclassified' to such documents) carries the distribution
  statement 'Freigabe nur durch BMVg .... ' (to be released
  only by MOD....).

In this case, authority must be obtained prior to release
of the document in any case, irrespective of the user
requesting the document.

For practical reasons, it is very useful to have an appropriate entry in
the references, indicating whether a document may be released to all users or
whether a distribution statement limits its distribution. Thus, documents with
limited distribution may be excluded from line searches, if so desired. Another
question is whether to include documents with rigid distribution limitations in
bibliographies. Disclosure of the reference to a document bearing a distribution
statement - even to persons who would not receive the document upon request -
generally causes no damage. Nevertheless, it must be kept in mind that these
documents have been entrusted to the centre in confidence.

One problem is the standardization and definition of limiting remarks. If
documents are received from foreign countries all restrictive remarks must be
transferred and converted to the appropriate national ones. Extreme caution must
be exercised not to misinterpret them or change their meaning. International
cooperation, on a case by case basis or under a bilateral agreement, will only
continue and progress if the delivering country can be sure that all conditions
under which documents have been given or exchanged are strictly observed by the
receiving country.

It is most important that distribution limitations are clearly stated on
the documents and that the user knows and understands under which conditions and
for what specific purpose documents have been made available to him. He must
acknowledge that it is his responsibility to use the information for this spe-
cific purpose, and it is his responsibility, too, that the information is not
misused by himself or by others.

Storage and delivery of documents with distribution limitations cause no
special problems. However, it is essential that accurate records are kept on
each document. The administrative effort in handling these documents is consid-
erable and requires knowledgeable and well-trained staff.

Housekeeping

The level of protection which is required for classified documents usually
falls as time goes by. Limited reports often need no special protection after
some years and are then made available to the public, and documents may become
obsolete or outdated. So, classified documents may have to be downgraded to a
lower security classification, or even declassified, as the case may be. Distri-
bution limitations may have to be altered or eliminated. Obsolete documents may
have to be destroyed. It is in the interest of the information centre and of its
users that the holdings of the centre represent the actual status of the securi-
ty level of the documents, that outdated distribution limitations are cancelled,
and that obsolete documents are eliminated. Therefore, in spite of staff short-
ages, these tasks must be undertaken regularly.

To effect this it is essential to get reliable notice from the originators
of the documents if any such action is required. Agencies issuing numerous docu-
ments will probably check their issues once per year and notify all recipients
on the actions required. Others may prefer to inform the centre in each individ-
ual case. If an automatic downgrading procedure has been incorporated for cer-
tain documents by the originator, stating that the document shall be downgraded
after a certain period of time, it is up to the centre to keep track of this
date. Another method would be to check the holdings of classified documents of
the centre regularly and request permission for downgrading from the origina-
tors. It will depend upon the number of documents to be checked and upon the
personnel available for such an action. If copies of documents which are up for
downgrading or declassification have been distributed to users for retention it
is the responsibility of the centre to inform these users accordingly.

In downgrading documents, the old security classification will be lined through and the new classification will be shown on the document. A similar procedure applies if classified documents become declassified. NATO and national security regulations cover all necessary details. If documents which originally bear distribution limitations, become available for unlimited distribution this must be clearly stated on the respective documents. Of course, all references in the data bases must be altered accordingly, too.

If classified documents are to be destroyed because they are outdated or obsolete that must be done in accordance with security regulations. The destruction of obsolete documents in confidence requires also some precautions. Superfluous to note that references to such documents must be eliminated, too.

Conclusion

Classified documents and documents in confidence contain valuable information. The originator has entrusted these documents to the information centre relying on the proper handling they require due to security aspects or commercial sensitivity. Both types of documents need careful treatment. It is essential to have adequate procedures, definite instructions, and well-trained staff for their management.

References

(1)   "Security Within the North Atlantic Treaty Organization", Document C-M(55)15(Final), Vol. I, NATO Restricted.

(2)   Michael G. Sims, "Security Storage and Control", AGARD-AG-235 - Vol IV, Section 10, 1981.

(3)   Nancy K. Roderer, Donald W. King, and Sandra E. Brouard, "The Use and Value of Defense Technical Information Center Products and Services", King Research, Inc., Rockville, Maryland, 1983.

(4)   Bundesministerium für Forschung und Technologie, "Concept of a Secure Information System Consisting of the Components Operating System, Database, Dialogue-System, and Applications", BMFFT-FB-DV 83-085, 1983 (in German).

(5)   "Handbook for Users of the Defense Technical Information Center", DLAH 4185.8, Defense Technical Information Center, Defense Logistics Agency, Cameron Station, Alexandria, VA, 1985.

(6)   "NATO Agreement on the Communication of Technical Information for Defence Purposes", BGB Teil II, Nr. 39, p. 985 ff, 1973.

(7)   "Implementing Procedures for the NATO Agreement on the Communication of Technical Information for Defence Purposes", ibid, p. 993 ff.

(8)   DRIC Leaflet No 14 (Rev. February 1984), "Unclassified or Unlimited?", Defence Research Information Centre, Orpington, Kent.

Appendix 1

Side by Side Listing of Military Security Categories

NATO	COSMIC TOP SECRET	NATO SECRET	NATO CONFIDENTIAL	NATO RESTRICTED
BELGIUM	TRES SECRET	SECRET	CONFIDENTIAL	DIFFUSION RESTREINTE
CANADA	TOP SECRET	SECRET	CONFIDENTIAL	RESTRICTED
DENMARK	YDERST HEMMELIGT	HEMMELELIGT	FORTOLIGT	TIL TJENESTEBRUG
FRANCE	TRES SECRET	SECRET-DEFENSE	CONFIDENTIEL-DEFENSE	DIFFUSION RESTREINTE
GERMANY	STRENG GEHEIM	GEHEIM	US-VERTRAULICH	US-NUR FUR DEN DIENSTGEBRAUCH
GREECE	AKROS APORRITON	APORRITON	EMPISTEFTIKON	PERIORISMENIC CHRISSEOS
ITALY	SEGRETISSIMO	SEGRETO	RISERVATISSIMO	RISERVATO
LUXEMBOURG	COSMIC TRES SECRET	SECRET	CONFIDENTIEL	DIFFUSION RESTREINTE
NETHERLANDS	ZEER GEHEIM	GEHEIM	CONFIDENTIEEL OR VERTROUWELIJK	DIENSTGEHEIM
NORWAY	STRENGT HEMMELIG	HEMMELIG	CONFIDENSIELT	BEGRENSET
PORTUGAL	MUITO SECRETO	SECRETO	CONFICENCIAL	RESERVADO
TURKEY	COK GIZLI	GIZLI	OZEL	HIZMETE OZEL
UNITED KINGDOM	TOP SECRET	SECRET	CONFIDENTIAL	RESTRICTED
UNITED STATES	TOP SECRET	SECRET	CONFIDENTIAL	---

THE RESOURCES REQUIRED TO RUN AN INFORMATION SERVICE

Jan Müller
Dokumentationszentrum der Bundeswehr (DOKZENTBw)
Federal Armed Forces Documentation Centre
Friedrich-Ebert-Allee 34
5300 Bonn 1
Federal Republic of Germany

Conceptual, manpower, material and financial components are described and discussed as the "resources" of an I&D service. The idealistic background provides the basis for the definition of the purpose and of the aims/objectives of an I&D service. The strategies applied for their realization result from these aims/objectives and from the instruments available and make up the conception, which is reflected in the organizational structure and flow-oriented planning. These provide for the methodic allocation of manpower, material and financial means. The significance of these components is emphazised both when looked at individually and with respect to their interdependence. Apart from the financial aspect (basic investments and operation) another important component, that is the special role of infrastructure and the acceptance of an I&D service as constituting a pre-requisite for its operation will also be examined. The interdisciplinary character of an I&D system is reflected in the composition of manpower, the technology applied, the fields of knowledge dealt with and applied and the information need of the user.

Contents

1. INTRODUCTION

Raw materials are indispensible for the survival of a society, but they are expensive. Knowledge, and the information about this knowledge, is a raw material the qualitative and particularly quantitative offer of which has become vast and confusing and is still constantly increasing. Contrary to that there is the requirement for specific information. That is exactly where the I&D service comes in by transferring selective,qualitatively optimized and quantitatively reduced specific knowlede in an information process. From this task and from the constraint to economize on funds result the significance and the justification of an I& D service, which effectively handles knowledge as an indispensible raw material.

Sponsor, operator and user accept the I&D service because they are aware of the above-mentioned facts and their consequences, thus drawing appropriate conclusions and taking the respective actions convincingly:the sponsor creates the pre-requisites for a service in terms of manpower, material and, in particular, funds; the operator provides the expertise coupled with a high engagement at all levels and in all specialised fields of the organization; the user realizes and makes use of the advantages of a service and provides the required feedback. Thus the success of an I& D service is dependent on pre-requisites in terms of ideals, conceptions, manpower, material and, last but not least, financial means.

2. CONCEPTION

With respect to what has been said it is the primary task of an I&D service to satisfy the demand for information of the parent organization. To be able to meet this demand efficiently the I&D service must be established, extended and operated on the basis of the aims and objectives of the parent organization, from which the I&D. service's own institutional principles (institutional philosophy) must be derived and conceptualized. These principles are based on the knowledge that there is a requirement for
-   making the future medium- and long-term institutional aims and objectives
-   evaluating ways and means to achieve these aims by developing and selecting strategies, and
-   making the required resources available such as manpower, material and funds.

The resulting concept must take account of the fact that
-   information is a type of resource. Like the former the latter must be planned and controlled. Its quality decides on the success of the I&D service and has an overriding influence on the efficiency of the parent organization;
-   it is imperative for a successful operation of the service that appropriate instruments are applied to adapt the information on offer to the requirements of the present or future user or to the field of application and to develop it accordingly.
-   the information on offer must be planned in cooperation with the customer on a long-term basis so as to recognize and to satisfy prospective requirements;
-   all sectors of the parent organization can be supplied with information for planning and decision-making. Existing or potential fields of application will be suitably structured;
-   the "status quo", that is the currently existing system and its application , constitutes the starting point of an I&D system;
-   analysis models, projection models and projection techniques of modern institutional planning are didispensible instruments and are complementary to the conventional means of project planning and control;
-   the widened mental horizon of the managerial staff is a pre-requisite for such a service. They must see themselves as strategic management specialists of long-term, user-oriented information transfer.

The concept is reflected in the institutional principles (institutional philosophy) and will be defined by the institutional aim/objective, which will be operationalized by the instiutional intention and realized by the resources to be allocated.

2.1 Institutional Principles

The requirements of the parent organization form the basis and the setting for the operation of the I&D service. With respect to present, future and potential fields of application they generally reflect expectations without being specific. The intention to meet these expectations from the technical point of view is expressed in the institutional philosophy. By using the specific knowledge within the given technical scope, this philosophy reflects the strategies applied to achieve aims and objectives. The central factors of the institutional principles, that is
-   location   (social-wide scenario)
-   mission   (provision of information)
-   implementation   (methods and procedures)
-   management principles   (management and organization)

form the basis of the "in-house" and the "external" image of the I&D service. They are reflected in the
-   definition of the institutional aim(s)/objective(s)
-   planning of the strategie to achieve long-term aims/objectives
-   analysis of possibilities, opportunities and risks
-   development of aims/objectives which can be achieved in a short period of time
-   setting-up of an organizational structure
-   establishment of flow-oriented planning
-   effective use of the budget available
-   operational planning to achieve short-term aims/objectives
-   structure of the communcations, information and reporting systems

- determination of measuring and control systems.

2.2 Institutional Aim/Objective

Whilst our considerations have so far been limited to the relatively abstract concept of the "idea as the source" a first specification is given by the definition of the organizational aim/objective. There is a requirement for a rapid and comprehensive provision and supply of the parent organization with the information required for the planning and decision-making process. An example is given in Appendix 1, which shows the mission of the Federal Armed Forces Documentation Centre (DOKZENTBw) in accordance with the TC&E. The satisfaction of this requirement is determined by the information on offer, the information required, the planned and potential users, and the acceptance of an I&D service by the sponsor, operator and user. The factors described in para 2.4 form the setting for the development of this process. In order to mark out this setting the above-mentioned determinants must be defined.

The information on offer is so vast and confusing that only the analysis of the information required permits the structuring and the qualitative and quantitative selection of the offered information.Thus the requirement analysis is of decisive significance. The information need must be ascertained in all those sectors of the parent organization which are involved in the planning and decision-making process and which are to be supplied by the I&D service. It must be taken into account that the informational need emanates from unstructured rather than from formalized decision situations. The criteria for analysis are the subject matter (field of knowledge, speciality), type of information, content of information, completeness, accuracy and topicality, with "information need" and "user" being complementary terms.

As long as no special or expert systems are involved the user will always be an incoherent mass of customers with requirements which differ in terms of subject mattter, quality and quantity. With respect to the service function towards the parent organization and its aims/objectives it will therefore be helpful to define the user target group. The hierarchic levels of the parent organization, classified according to specific functions, may serve as criteria. When defining the user, consideration must be given not only to the present fields of application but also to those which are planned for the future and those which are potential. The target group determination by DOKZENTBw (see Appendix 2) is one way of defining the user. It goes without saying that a definition is impossible without the user's cooperation.

When defining the user we encounter the problem of acceptance of the I&D service at two levels. The problem is
- how the managerial staff of the parent organization view the I&D service
- that the user is biased towards innovations, in particular towards new technologies.

In this connection a number of factors become important which have a hampering effect. They can be summarized as follows:
- the managerial staff do not know their long-term information need or they fail to realize it because they lack strategic thinking;
- operative development aspects oriented to rationalization are considered more important than the support for planning and decision-making;
- project development is determined by priorities of powerful users which prevents the harmonious and synergetic use of an I&D service;
- direct resources (personnel, material, infrastruture) to limited funds relationship;
- handed down working methods;
- no or lack of readiness to learn how to handle new technologies;
- suspicion of the efficiency of new technologies.

From this aspect it seems to be very doubtful whether the acceptance of an I&D service can be imposed. It is rather that an important domain of activity opens up to the empiric social research. The qualitative and quantitative acceptance analysis offers the basis for the development and application of methods and procedures (the easiest way being by public relations work) to remove all impediments and to nurture the willingness to accppt an I & D service. The results of the information need analysis, the user definition and the acceptance analysis are reflected in the definition of the aims/objectives of the I&D service, that is to say the I&D service will have to find out
- what is to what extend (subject-oriented information) the subject of information transfer
- for whom(user)
- how (process-oriented information)   and
- by what means.
   (see Appendix 1).

2.3 The Intention

The further concretization of the organizational aims and objectives so defined is expressed in how this objective is to be achieved. Starting from the present system of application the strategic planning of the I&D service represents the basis for its efficiency in the presence and in the future. In this connection attention is drawn to Chapter 5. But here three aspects are to be particularly emphasized.

2.3.1 The decision whether the aim and objective aspired to can be achieved in the most efficient way by means of

- meditation, that is to say by evaluation and transmission of information from external data banks (provided by a HOST)
- setting up and operating own data banks including the generation of an own data base
- or by combining both procedures.

Making this decision should not be too difficult. Due to the resource character of information the access to external data banks is indispensable; also the special interest profile resulting from national interests can only be met from specific data banks which must be generated by the I&D service.

2.3.2 Considering this condition the determination of the object - type of documentation, domain and coverage of the literature to be evaluated, becomes as important as the determination of the procedure of documentation. Depending on the definition of the aims and objectives the decision must be taken if
- reference documentation
- fact documentation
- project documentation
- etc.

best meets the needs and which options must and shall be kept open.

Considering the interest profile and the character of the relevant literature, reference documentation systems prove to be the most efficient; that is why they will be discussed explicitly now. They do raise the question of the supply of the documents, the unsatisfactory solution of which leads to frictions with the user. Thus also the principle shall apply that retrieved literature is provided in the full wording.

2.3.3 The design of the information process (information transfer) can be defined as the translation of the intention to supply information to the user differentiated between user group or individual user. Corresponding to the difference of importance of the information to the user and of the user himself, the necessary procedures must be identified and allocated. They are:
- Active information (periodically issued, editions of information books)
- SDI (Selective Dissemination of Information)
- Retrospective literature search
- Profile service
- Ad hoc information service

Interest profile and satisfaction of needs must find their equivalents under the aspects of relevance, topic and consequences.

2.4 Resources

The resources, available, or to be produced, if necessary, which are useable and financially acceptable, form the basis for the realization of the intention or for the achievement of the aims and objectives, respectively. Their gradual distinctness is a function:
- of the quantitative and qualitative satisfaction of the manpower requirement. The production factor "man" is the most important source of the I&D service concerning command function, specialized activity, support and ancillary functions;
- of the employment and utilization of modern, flexible and developable technologies, with regard to information as an object, information as a process (including planning, realization, supervision and control) and information carriers;
- of an infrastructure resulting from the above mentioned factors;
- and, finally, of a budget with the help of which the necessary sources can be made accessible suitably (or be created if necessary), be maintained, developed and exhausted.

The statements made so far were intended to make evident that the establishment and operation of an I&D service draws from the manpower, material and financial sources; the conceptional source in its overall social, future related significance represents the intellectual superstructure - and thus the prerequisits as such.

3. ORGANIZATION

The properly structured relation between the above described resources as conceptional, personnel and material components of an I&D service is reflected in the service's organization. If organization means

> "the long-term methodic allocation of men and material to create the most favourable conditions for their best possible combination so as to achieve, on a long-term basis, given aims and objecitves" 1)

then the resulting system of regulations and procedures can also be called an organization. The above mentioned components (sources) constitute its elements; as a dependent variable it becomes a resource itself. Chapter 3 deals with the organization of an I&D service in detail; I will therefore confine my presentation to the basic resource character of the organization and emphasizing its characteristics. The elements of the organization
- i.e. men and material, must not be seen separately but as forming an entity;
- must be linked by a system of regulations so that a structure will emerge;

1) Hub,Hanns: Betriebsorganisation. Betriebswirtschaftl. Verlag Gabler, Wiesbaden =D=1983,p.3

- will be allocated to affect the relation between man and man, man and material and material and material;
- will be methodically allocated to one another (i.e. structured) as the result of intended and rational thinking processes.

The organization itself does not set any aims or objectives but creates the (most favourable purpose- and instrument-oriented) conditions for the operational activities to achieve an aim or objective in the best way. These regulations are of long-term orientation, they are comprehensive and detailed. At the same time, however, they must be flexible enough to guarantee individual scope of action and innovation potential and to foster the adaptation of the system to surround changes and to advanced developments.

3.1 Organizational Structure

Mission analysis, mission breakdown and mission synthesis are major factors which determine the type of organization. The activities to be performed by an I&D service are specified by the definition of the aims and objectives and comprise:
- procurement of literature
- evaluation of literature
- formal description
- document analysis
- data storage
- retrieval
- dissemination of information, and finally
- operation and development of the system.

The breakdown of these activities into functions and sub-functions is determined by the following factors:
- type and characteristics of activities to be performed
- priority and phase (that is planning, decision, control, implementation, supervision, performance of activities)
- purpose to be served by activities (functional or administrative type).

The resulting centres will be structured and grouped into hierarchic organizational units. They will reflect aspects of centralization/decentralization as well as basic correlations with respect to the
- distribution of activities
- hierarchical order with respect to staff agencies, and
- relations within the organization in view of information exchange.

The organization plan (an organizational chart) shows the structural system, superimposed by a communications system, of the individual organizational units and their relationship. With respect to mangement principles it comprises
- management aspects (management structure, manamgement system, management organization)
- functional aspects (see above) and job descriptions, and
- type of organization (e.g. staff line organization, divisionalized organization, matrix organization).

3.2 Flow-Oriented Planning

While the organizational structure is a formal classification and structural system which deals with the hierarchical order and the allocation of types of activities, flow-oriented planning provides the basis for the structuring of work flows, that is to say, the spatial and timely sequence of related operations. Within the I&D service flow-oriented planning governs the
- implementation and sequence of implementation of activities which a person in I&D service (in accordance with the job description and the staffing plan) assumes to treat information with the aim of mission performance;
- process of subject-oriented treatment and processing;
- flow of information within the organization with respect to functional and administrative activities, and
- flow-oriented relations (classification/grouping) .

Flow-oriented planning is thus an essential "resource" of the I&D service because it determines the most adequate work flow and ensures that this work flow is always followed in the same manner. Simultaneously, flow-oriented planning can have a decisive influence on the work flow's effiency when aiming at optimizing the use of existing capacities and minimizing the time which the flow of the subject-oriented information requires.

4. PERSONNEL

An indispensible pre-requisite for the establishment, operation and further development of an I&D service is the availability of a sufficient number of qualified, motivated personnel that are apt for cooperation. Individual qualifications and performances must, however, not serve individual aims but the collective aim of optimally supplying the user with information. All personnel, from the executives down to the youngest assistants, must work together as a team to achieve this aim by optimally performing the functional and administrative activities. This is only possible by intrinsic motivation which must, however, be constantly encouraged. Motivating factors are, for example, extent to which the executive personnel identify themselves with the institutional aim/objective, technical qualifications and managerial talent and management style and behaviour on the basis of fixed and practised managerial principles. However, the material aspect, that is, performance-oriented pay, regulation of working hours and organization of the workplace also plays an

important part. Finally, it must not be ignored that, although working together in a team
to fullfill a common mission, the scope of action of the individual must be such that he
has the chance to realize his own ideas and to find satisfaction in his job.
To sum up it can be said that, on the basis of good qualifications,
- intrinsic motivation
is encouraged by
- immaterial incentives)
- material incentives   )   extrinsic motivation
on the one hand
and by
- management style and behaviour
- personnel mangement and personnel development
on the other hand.
Given a good working climate the personnel, when successful, will find satisfaction in
their jobs, and success is a very good motivation.

4.1 Personnel Requirements and Satisfaction of Requirements

The staffing plan and the job description specify the quantitative and qualitative
personnel requirements. Each job is marked by a specific requirement profile which re-
flects the type and scope of abilities and skills required by the functional, managerial
and administrative activities and their hierarchical order within the I&D service and its
operation, and thus give a qualitative and quantitative definition of the personnel re-
quirements. These must be met by appointing a person to a post who has the required abi-
lities and skills, and by filling all posts, using the methods of personnel selection
(which must be examined for its validity, if necessary). The methods to be employed are
of a personal type, such as interviews, assessment centre, efficiency reports etc. The
personnel selection is a basic requirement for
- preparing
- ensuring, and
- maintaining
the personnel operability of the I&D service.

The personnel planning and personnel management staff thus have the task to identify
the "personnel" resource, that is to find out where the personnel can be recruited from,
and exploit it. The personnel requirements can be div` `ed into five areas.
1. Executive and management personnel
2. Scientific personnel
3. Technical experts and documentation specialists
4. Employees with administrative and supporting functions
5. Ancillary personnel
These areas cover the I&D specific and I&D related activities within the I&D service
which are:
1. Leadership, management and adminsitration functions
2. Library service incl. procurement, cataloguing and formal description of documents
3. Special documentation service incl. selection, analysis, classification, indexing
   and abstracting of documents
4. Language service
5. Arrangement and storage of the
   a) document surrogates using ADP (hardware and sof'ware)
   b) parent documents using appropriate technologies
6. Retrieval of relevant parent documents with the help of document surrogates and by
   using the technologies mentioned in paras 5 a and b.
7. Dissemination of information (reprographic services)
8. Further development of the system, i.e. preparation and up-dating of working methods
   (regulations, instructions, thesaurus) and training methods for training and advan-
   ced training in all fields of activity.

4.1.1 Executive and Management Personnel

In accordance with the organizational structure of an I&D service leadership and mana-
gement will have to be exercised on two levels as
        management of the overall system   and as
        management of the individual organizational units .

To insure efficient management of the overall system the executive manager/head of the
I&D service will have to define and provide for the enforcement of the strategies requir-
ed to reach the objective of the I&D service. Essential preconditions to attaining this
are comprehensive specialized knowledge, managerial aptitudes and a strong personality
with a solid character. To go into more detail and further define these criteria would
go beyond the scope of this discussion. It must, however, be pointed out that leadership
and management are complementary terms and that the emphasis should be put on leadership,
because - as the saying goes:"Managers do things right, leaders do the right thing."
If both components are complementary to each other, optimum efficiency will ensue. The sa-
me applies to leadership on the level of the individual organizational units. The only dif-
ference is that here the emphasis is on special technical qualification, and not on the
broad qualification spectrum demanded from management personnel responsible for the over-
all system. At this point the question arises if personnel with the qualification required
is available and if such personnel can be recruited and from where.
Considering the requirements to be met with regard to such personnel (compare para 4) a

choice between the following alternatives is possible:

1. To start off with the management personnel of the existing institution using it as a basis for setting up the I&D service in question. As a rule, however, some library service - more rarely some kind of archives or record offices - will become the nucleus for an I&D service and the question arises if its personnel is sufficiently qualified for the new job, both with regard to I&D relevant special knowledge, and to the necessary understanding of the specific nature of I&D and of the need of integrating the library activities into and/or subordinating them to the new I&D service. Last but not least managerial aptitude is vital, too. The success of subject - oriented instruction and advanced training to meet these requirements will depend upon the personnel selected for the job. A high measure of willingness to acquire the necessary knowledge will be indispensable.

2. To start off with personnel working in major headquarters having the necessary leadership and management qualities. It might, however, be difficult to find such military personnel, which must have a certain understanding of and preparedness to engage in an activity not fully accepted as a typically military task. But willingness to keep on learning and to continuously update their knowledge is of great importance here, too.

3. To start off with military personnel, which must, however, be subjected to a comprehensive long-term training with a view to doing this specific job. If their expectations with regard to professional satisfaction and career prospects can be met, there should be no problems of getting them   accepted such work.

4. To start off with personnel working in other I&D services of the civil sector or with Civil Service employees qualified for such I&D work. In this connection care must be taken to insure that such personnel will see the necessity of defense-relevant I&D work and will accept to work in a military environment. And here, too, openmindedness and a will to keep on learning will be a must.

4.1.2 Scientific Personnel

The level of proficiency this personnel should have is a function of the tasks to be fulfilled. Under these optics two areas of activities, namely documentation, that is abstracting and subject   analysing of relevant literature, and information retrieval will be dealt with explicitely.

Within the scope of the I&D service, the subject specialist must be able to intellectually cope with, evaluate, select and process the incoming pieces of literature; in this connection two aspects are of importance: Does a piece of literature warrant inclusion into the system and is it relevant to defense purposes?

The same requirements must be met in the second area: information retrieval. The subject specialist acting as a mediator between author and user must be an expert in his subject area, have a keen mind and the ability for analytical thinking. The consequence is that the work done by him, i.e. the abstracting and subject analysing, can only be done efficiently and effectively if he holds a unversity degree in his special realm of science or if he was given adequate technical training in one of the military specialities before. That is to say the person responsible for abstracting and subject analysing literature in the fields of medicine, of personnel management or of weapons technology must be a specialist in medicine, a personnel management specialist or a technical engineer with a degree in his specific technology field respectively.

The purely armed forces peculiar subject fields, that is literature dealing with the ground forces, the air forces and the Navy under the aspects of tactical, operational and strategic planning, leadership training and combat missions, occupy a special position. Here profound military training and experience will be of greater use than knowledge acquired at the university. The resulting personnel requirement must be met by drawing on the employees available in the military and civil sector of the existing organization. In this connection I would refer to para 4.1.1 .

The question as to whether the subject specialist can benefit by the abstracting and subject analysing work done by free-lancers or people working in commercial enterprises depends on the qualification and availability of such contributors and of the financial means at hand.

It must,however, be emphasized that the decision as to whether a piece of literature is defense-relevant and will be accepted for inclusion into the information system is and continues to be the n o b l e s t task of the subject specialist, a task which cannot be delegated.

In this connection two other important organizational elements must be dealt with, these are the translation service and the computer-assisted data processing or ADP section.

Depending on the user group concerned a certain proficiency of (at least) the NATO languages English and French to understand foreign - language texts is expected. It is highly probable, however, that the language problem is a certain barrier to the readiness both of the user and the subject specialist to accept foreing-language information material. Particularly important documents or documents written in less widely spoken languages must therefore be translated to help a) the subject specialist in selecting and subject analyzing documents for inclusion into the information system and b) the user to read them. An in-house translation service must be capable and in a position to inform the specialists concerned rapidly and accuratly about the contents of a piece of literature and to enable them to select defense-relevant documents. Later on this service must prepare a correct full text translation of the document for delivery to the user. Of course it is not possible to have personnel for complete coverage of all languages needed. To fulfill these requirements in terms of quality and quantity is a question of availability of funds and

translator personnel. An alternative way might be to make use of external translation ser-
vices or of free-lance translators. However, security considerations with regard to the
documents in question, which may be classified RESTRICTED/CONFIDENTIAL or SECRET, might
play as important a part here as they did with regard to the use of on-pay contributors
dealt with under para 4.1.2 .

ADP is the "condition sine qua non" of an efficient I&D service. This is true for the
- selection of hardware and software systems which are in accordance with the aims/objec-
  tives of the I&D service;
- implementation, operation and further development of hardware and software systems
- under specific, I&D specific and ergonomic aspects,
- with convertibility and flexibility guaranteeing
- the further development of the future-oriented I&D service, in its entity.

The group of persons to be tasked with the realization of this mission must have com-
prehensive specialized knowledge and must use it for the operation of the I&D service.
The ideal situation would be to have a computer scientist, who, having undergone informa-
tion specialist training, would lead the ADP section and use it as a means to realize his
mission.

To sum up it can be said that the scientific personnel is a heterogeneous, interdisci-
plinary group of persons qualified and competent in the scientific field (which is, with
certain restrictions, also true for translators). They are information specialists. With-
in their professional realm they assume the original activities of
- document analysis (incl. classification and indexing)
- arrangement and storage of the parent document and the document surrogate, and
- retrieval and dissemination of information
with the priority of their tasks changing, and create the required pre-requisites, such
as the preparation of thesaurus. They must see themselves as serving the purpose of their
mission by imparting information to which the subject- or instrument-oriented field of know-
ledge they deal with after undergoing the required primary training must be subordinated.
The priority of their various functions is reflected in a diversified requirement profile.
There will always be a requirement for characteristics such as specialized knowledge, ma-
nagerial talent, cooperation, analytical thinking, and creativity, though they may vary in
distinctiveness.

The repeated reference to the post-academic information specialist training emphasizes
its significance in technical terms and with respect to the above described way in which
the information specialist sees himself.

4.1.3 Technical Experts and Documentation Specialists

The above mentioned personnel is tasked with the intellectual and analytical creation
of the parent document, its clearly reversible relation to the document surrogate and its
retrieval. These personnel must be supported by persons who assume subactivities in the
field of information and documentation treatment and processing. In this connection the
optimal application of special technical knowledge and procedures to assume I&D subacti-
vities plays an important part.
These activities can be classified as follows:

1. Library service to include
   a) procurement of documents
   b) cataloguing of documents
   c) formal description of documents

2. Data processing incl.
   a) system servicing and adaptation
   b) system maintenance and operation
   c) data organization
   d) on-line input of data
   e) information processing .

3. Reprographic services
   Collection of documents by
   a) transferring the parent document on to special data carriers
      (handcopy, microfilm, microfiche, CD-ROM)
   b) organizing the allocation of parent document and document surrogate
   c) printing information journals as part of the Automatic Information Services
      (periodical and special publications)
   d) copying of documents requested by the user by taking data carriers
      which he is able to use .
From these three fields of activity result the qualitative and quantitative requirements
for
   1. librarians, library assistants and specialized library personnel
   2. ADP organizers,ADP specialists, programmers, maintenance and operations personnel
   3. reprographic experts and specialists, printers, maintenance and operations personnel.
The number of personnel is determined by the type and scope of services to be rendered
by the I&D service, the number of and the acceptance of such a service by the user as well
as by the technology applied, which in turn results in the qualitative requirements to be
fulfilled by the personnel.

The personnel managers must be very flexible when satisfying these personnel require-
ments. The various functions to be assumed within the information process, that is proces-
sing of sub-oriented information, require sophisticated specialized knowledge in different
professional realms and the exploitation of resources for the recruitment of military and
civilian sector presumably being focused on.

4.1.4 Employees with Administrative and Supporting Functions

The same applies more or less to personnel required for supporting activities. These are activities which do not require any special training but can be executed after a certain period of vocational adjustment coupled with a short training course, if necessary. Pre-requisites are, however, appropriate school education and follow-on training or an appropriate educational background in this field of knowledge.

To be more precise, the personnel required must work in the
1. library service (procurement and cataloguing of literature, document collection)
2. on-line input of data
3. reprographic services
4. administration and management

and must assume formally prespecified tasks as being directed.

The above described activities comprise:
Re 1. writing letters, filling in forms, maintaining file indexes,
Re 2. feeding the terminal with data by using prespecified programs for on-line input of data, data processing and data output;
Re 3. recording and classifying the documents collected and operating the technical equipment, that is preparing and producing data carriers for document collection and producing data carriers for the user; this involves the following activities:
- handling of reproduction cameras, microroll film and microfiche film cameras, duplicating machines for microfiche films and photocopying machines for the collection of documents (first generation data carrriers)
- production of work prints using the above-mentioned technology (second generation data carriers)
- production of document copy for user by taking (third generation) data carriers which he is able to use. Depending on the type of data carrier the above-mentioned machines also include the reader printer for microroll films, microfiches and CD-ROM;
Re 4. writing of prepared letters, doing office work, assuming firmly allocated sub-tasks origination e.g. from the personnel administration branch, the property accounting branch or the general office and delegated by the chief executive officer.

The personnel required can be recruited from a large resource. Depending on whether the I&D service will be integrated into the military system either military or civilian personnel may be selected. With respect to the required period of vocational adjustment fluctuation in personnel should, however, be reduced to a minimum.

4.1.5 Ancillary Personnel

This term covers a relatively uncomplicated group of persons which include messengers, warehousemen and cleaning personnel. The importance of their work should, however, not be underestimated, as it is in particular functions of that kind that, trivial though they may appear, can have either a favourable or unfavourable effect on the work and procedures of the I&D service. If the personnel covered in paras 4.1.1 through 4.1.4 are able to concentrate only on the tasks assigned to them they can be expected to be more efficient and to develop a feeling of higher job satisfaction. There should be no problems to satisfy the need for ancillary personnel.

4.2 Training and Advanced Training

The significance of training has already been mentioned in connection with personnel requirements. The different types and qualification standards of the described activities show that two types of training are required: firstly, the special training which is necessary for the work of an I&D service. Secondly, the training which forms the basis for and which helps to integrate the first type of training into the I&D process. With reference to para 4.1 the training requirements can now be ascertained and ways of satisfying these requirements in respect of primary training and documentary training as well as advanced training for both types must be conceived.

Training of executive and mangement personnel will be based, for example on business economics studies, management or military training. It must specify the idealistic and conceptual basis of an I&D service and must enhance existing motivations. The special knowledge imparted must enable the persons concerned to be accepted as specialists due to their competence and to legitimize their official authority. Training is thus aimed at imparting comprehensive documentary knowledge to permit planning, control and supervision of detail work, with the emphasis on comprehensive rather than on detailed knowledge.

This is also true for the scientific personnel, i.e. the information specialists. In this case, however, the special detailed documentary knowledge goes hand in hand with the qualifications gained in primary training. The information specialist is the I&D expert who knows the I&D process in detail, understands it and implements it, with the priority of his tasks changing. His training must be specified accordingly and must form the basis for
- advanced training with respect to a special priority of tasks
- advanced training with respect to I&D work and the information specialist's field of knowledge.

For the technical experts and documentation specialists special documentary and procedural knowledge is of overriding importance. As this knowledge is, however, I&D-oriented, integration into the I&D process must be possible on the basis of known aims/objectives and procedures. Special training must thus be complemented by
- comprehensive training fostering the overall understanding of I&D work

- special training oriented to the assumption of I&D related detail tasks.

For the employees with administrative and supporting functions no special training is considered necessary because of their characteristic tasks on the one hand and the required educational background on the other hand. Instead the personnel undergo a period of on the job training (familiarization).

The following three training stages are required for the operation of an I&D service:
1. documentary training of executive and mangement personnel as well as of information specialists, with consideration being given to the above-mentioned different requirements;
2. specialist training for functions to be assumed in sub-areas of the I&D process
3. training of assistants to become information specialists or other specialists .

There is no need to elaborate on primary training which provides the basis for any other training. With respect to the three-stage documentary training, training requirements, training procedures and training facilities must be examined.

While the training needs result from the required personnel, the training stage and the already available trained personnel, the training procedures are determined by existing training facilities and training cycles. As the vocational pattern of a documentalist has only recently developed the training facilities are still relatively few and far between. The partially differing opinions on this pattern are reflected in the heterogeneous training aims and cycles.

The I&D service, however, is a team which pursues a common aim. This leads to the conclusion that efforts must be made to provide consistent training throughout entire I&D system, which must be based on the following considerations:
- are there any training cycles which are tailored to the needs of the in-house I&D service ?
- is in-house training possible or must it be done externally ?
- to what extent can existing I&D services be asked for support ?
- which of these I&D services is closest to one's own ideas of an I&D service ?
- to what extent can training serve as a basis for specific advanced training ?
- does this training provide a sound basis for advanced training !

These questions can, in principle, only be answered by the managerial staff on the basis of how they view their own system. The discussion of these questions should only make it clear that training is one of the mainstrays of an I&D service and will determine the service's efficiency today and in the future. No training or, inadequate training would mean prodigality. Investing in training, however, will guarantee the success and the future of the I&D service.

4.3 Security

Chapter 6 covers this subject in detail. Here, it should only be mentioned that the subject of documentation and/or the security classification of the information imposes further constraints on the individual person and on the entirety of the personnel, which should be considered when personnel is selected.

5. MATERIAL

I&D means subject-oriented work. In this connection work means both the intellectual occupation with subject-oriented information and the procedural treatment of data carriers. Thus the material existence of the following is an essential pre-requisite for the operation of an I&D service and is worthy, trivial though it may sound, to be looked at more closely:
- information transferred onto evaluable data carrriers (subject-oriented information);
- training and working instruments for the control of work and procedures during the treatment and processing of information and data carriers;
- equipment for the treatment and processing of subject-oriented information .

5.1 Subject-Oriented Information

Without anticipating chapters 8 and 9, which deal with subject-oriented information and its procurement in detail, brief mention will be made of the sources of information which can be roughly classified as follows:

1. Primary literature

   a) Generally available literature   - periodicals
      - monographs (individual or collected works)
      - series
      - theses
      - studies, proceedings
      - research reports

   b) "Grey literature"   - the enormous range of research reports and studies which are related to a special user and not designed for publication

2. Secondary literature   - bibliographies
      - abstract journals
      - bibliographies and reading lists for literature under 1.

3. Military literature   - of different security classifications

4. Official literature   - such as memoranda of agreements
                                  treaties etc.

5. Other I&D services

This list shows that there is a range of diversified information to be exploited directly or indirectly. The degree of exploitation will be determined by the analysis of this information on the one hand and by the type and scope of services to be rendered by an I&D service. Language problems, if so existing, will have a decisive influence on the acceptance of foreign-language literature. This chapter does not cover the procurement of literature. Only two aspects, that is the analysis of procured literature within the in-house I&D service and the recourse to external I & D services will be mentioned.

The basic requirement to analyze procured literature as quickly as possible leads to the fact that the I&D service is always up-to-date. However, in day-to-day work this requirement often causes problems, in particular when the resource of information is difficult to exploit (individual abstract journals) or is analyzed by several documentalists. Therefore, a procedure must be developed and implemented (by using reprographic instruments, if necessary) which ensures that literature will undergo immediate documentary treatment and will be immediately passed on to all documentary specialists involved. It goes without saying that the literature must be passed on without delay by the document procurement personnel.

External I&D services are an almost inexhaustible source of information. On the international market nine HOSTS offer some 1500 and 2800 data bases and the number is increasing daily. Apart from the funds spent on the required hardware and software(with downloading capacity), communications, use of data bases and the collected information itself the discussion will cover the problems of literature research and document delivery.

The available data bases differ in organization and structure. It can be said that no data bank is like the other. Moreover, a multiplicity of interactive languages with different dialects are used. That means that the documentary specialist must be able to select the relevant data base(s) and to master the interactive language. Due to this fact the use of the numerous data bases available is clearly limited. Quality, that is a selection based on interest profile, must replace quantity.

Another problem is that most of the bases are reference data bases. Contrary to the in-house I&D service which delivers parent documents, these bases do not deliver any of these documents to the user; he must take care of the procurement himself.

We know from experience that it can take between four weeks and nine months before the user gets the document from a library. In cooperation with the libraries, ways and means must be found to reduce the time required for document delivery to a minimum, to enhance the willingness of the (paying) user to accept I&D services and thus to make the above-mentioned investments more profitable.

5.2 Equipment Needed for the Information Process

To give the reader an idea of the equipment needed the individual steps in the I&D process are presented in broad outline:

Acquisition of documents

Choice of Parent Document and Preparation of Document Surrogate

division into   parent document and document surrogate
arranging and storage of   parent document and document surrogate
automatic information service   via document surrogate
user request for information material,   i.e. parent document
retrieval of   document surrogate
retrieval of   parent document
adding of   parent document +   document surrogate
producing copies of parent documents and supplying them to the user

Resulting activities are
a) the work done by the existing library service
b) abstracting and subject analysis
c) arranging, storage and retrieval of document surrogate
d) arranging, storage and retrieval of parent document
e) copying and provision of information maerial available
f) the work done by the organizational unit: leadership and executive management

The decision as to what equipment will be needed depends upon the specific tasks and activities incumbent on the personnel working in these fields. For the activities mentioned above the following kinds of equipment are relevant:

1. Technical equipment used in connection with office work
2. ADP equipment (hardware/software)
3. Copying, duplicating and printing equipment

5.2.1 As a rule, office furniture and equipment, such as chairs, tables for writing or typing, in-house communication and typing systems combined with personal computers will be needed. Important criteria are rationalization and all considerations in connection with the flow of work. Reference is made to Dr.Diana Leitch's detailed publication "Organisation and Management: AGARDograph No.235, Manual of Documentation Practices Applicable to Defence-Aerospace Scientific and Technical Information". Volume IV of this Manual contains a paper dealing with technical equipment recommended for use in the in-house libra-

ry and parent document collection of an information system. However, in this paper from 1981, no mention is made yet of the use of ADP. This point will be dealt with in the following paragraphs.

5.2.2

The efficiency of modern I&D Systems will depend upon the hardware and software decided upon and implemented; that is true especially with regard to the data bases themselves (structure of the data and adminstrative routine). Depending on whether a centralized or a decentralized system is to be established and what efficiency will be expected from the hardware and software used, the following criteria should be considered:
- capacity
- flexibility
- compatibility
- convertibility
- retrievability (relevance)
- ergonomic layout .

These criteria are of such paramount importance, because they determine the extent to which working procedures can be streamlined and mechanized. This starts with the construction and development of the data bases and ranges from the retrieval in in-house and external data bases to the printing of document surrogates in response to requests for information material or as copyfit manuscripts used for printing the abstract journals. Even though these considerations refer mainly to the qualitative aspect, we must not neglect the quantitative criterion. A sufficient number of terminals and printers for data acquisition, abstracting and subject analysis, retrieval, software updating, implementation and use of other means (e.g. thesaurus) as well as control functions and the elaboration of statistics serve to guarantee smooth functioning of the I&D-process. In order to be able to provide the user with up-to-date information, which actually corresponds to his needs, it is absolutely necessary to ascertain how much and what kind of data processing equipment is required and that these requirements are met adequately.

However, electronic data processing has acquired importance in yet another respect. It also serves to do mechanical, relatively simple but time-consuming work and this to relieve management and administration. Nowadays, typewriters, manual files and the manual preparation and evaluation of statistics have come to be mere anachronisms. While covering the demand in this field of application, the aspect of humanizing the working conditions and rationalization have to be taken in account. This demand can be covered by selecting from a vast offer of
- personal computers
- text processing systems
- office communication systems

which are either internetted or at least internettable.

By using these systems considerately, it is possible to make up for lacking personnel, to replace less qualified personnel (cost factor), to speed up certain working processes, to eliminate sources of errors and thus to contribute to the efficiency of the I&D-service in general. The maxim to be adopted reads as follows: "Manual work wherever necessary and reasonable, ADP wherever necessary and possible."

5.2.3

The last issue to be dealt with in this context is the application of reprographic processes. The aim is to provide the user with a legible copy of the desired document on a data recording medium. This objective and the physical quality of the manuscript are the determining factors for the choice of the methods and technologies to be employed. The efficiency parameter is determined by the number of copies requested. The printing and duplicating section has the task of evaluating, choosing and employing the available technology while taking into account the particular requirements of the I&D service. One of the decisive aspects which determine the further flow of work is the selection of the data recording medium. Possible choices are
- paper copy
- micro roll film (in jackets)
- microfiche
- CD-ROM (compact disc - read only memory) .

The further equipment depends on the choice of the data carrier, unless an unwarrantable mix of different and even incompatible systems were accepted. Yet, there are cases, and special fields where this is inevitable, due to the object of information.

The following example illustrates the simplest set of equipment to be procured if the micro flat film is chosen to serve as data carrier.

filming of the document (1st generation)	micro sheet film camera (for certain qualities and formats a high-quality copier has to be used)
reproduction of the work print (2nd generation)	microfiche - duplicator
reproduction of the copy for the user (3rd generation) in the form of	
a) paper copy	reader - printer
b) microfiche	microfiche-duplicator

The qualitiy parameters of each equipment must be adjusted to the quality of the preceding

generation of copies; this is a point where problems can arise, if uncommon microfiches (of the 4th or 5th generation) are used. The capacity must be sufficient to cope with present demands (which have been calculated) as well as with future requirements (which have been prognosticated). If necessary, a shortfall in capacity can be compensated by increasing the number of machines. Even though this is a very expensive solution, it may turn out to be a safer alternative with respect to the reliability and downtime of equipment. The a.m. configuration contains of course only the basic equipment necessary for the processing of specific documents (e.g. reproduction of half-tone photographs, colour photographs, large format plans, maps, drawings etc.). The production of copies of all three generations must always be regarded as one single working process.

As far as the requirements for equipment to be used for manual processing, filing, safe-keeping, categorizing and retrieving of the parent documents are concerned, reference is made to the statements in para 5.2.1 .

Automatic information services are another field of application for reprography. Via the print - media, the I&D service offers its information either to the potential user community as a whole or to a certain target group. These publications can appear in the form of periodical or unperi cal booklets or serials, which are destined for the user in general or for specific users and groups of users; finally, we must also mention the selective dissemination of information. While the production of the copyfit manuscript is edited by means of electronic data processing, the final ediditon of the active information, which is destined for the user, is produced by printing section. Thus, the dimension and equipment of the printing section depend logically on the format and number of the copies to be printed. In most cases, a highly efficient large scale copying system will be sufficient, both with respect to quality and with respect to capacity. If the limits of the copier's capacity are reached, it becomes necessary to use an offset-facility at least for the periodical booklets and serials. On the other hand, it may be more efficient to supply SDI services on principle by using photocopying systems. Irrespective of this differentiation, it is indispensable to procure a complete set of equipment in order to make sure that the whole process of production, from the copyfit manuscript to the finished booklet, is kept under the control of a single authority. This answers a high degree of topicality, saves time and costs by an efficient and flexible utilization of the available capacities, and also guarantees the necessary degree of independence.

5.3 Working Tools

The material, which is necessary to do the work, comprises expendable goods as well as regulations, instructions on procedures and on the operation of the equipment used. It may sound trivial to say that paper must be available to be able to write on. Yet, this statement acquires quite a different importance if a bibliography cannot be printed for the sole reason of unavailability of the necessary paper in the sufficient quantity and quality or because the necessary ribbon is lacking.

Regulations and instructions serve to guarantee the consistency of the individual sections' work thus ensuring the quality of the work. The number of details contained in an instruction depends on the complexity of the respective job to be accomplished. On the other hand in such a complex system as an I&D service it has become quite impossible to control all activities and the way in which any given job - or even part of a job - is done. Mental overstrain and excess mental information storage must be replaced by a knowledge on where this information can be found.

Thus, regulations and instructions constitute the indispensable instruments (thesaurus for example), which make it possible to preserve a certain intellectual capacity for creative and innovative thinking and action. At the same time they make sure that any given job is always performed in the same way, which guarantees the consistency of the I&D process.

5.4 Training Aids

The importance of training and further education has been discussed in para 4.3 in connection with questions relating to personnel. The man - machine realtion which is also influenced by training, leads to the creation of certain instruments for the establishment of this relation. These instruments can be the regulations and instructions referred to above. Yet, that is not enough. They must be prepared didactically and methodically (use of overhead projectors etc.) and have to be generally binding. This means that specific documents for training purposes have to be prepared. They must be complemented by the practical training for any special job. Hence the requirement for material for the practical training, which comprises technical equipment (on the job training) including simulation (e.g. data banks for training purposes), didactical equipment (from blackboards to audiovisual media) as well as expendable supplies.

6. INFRASTRUCTURE

An infrastructure suited to interhuman relations as well as to the relations man - machine and machine - machine within the framework of the I&D process is an indispensable prerequisite. This has an impact not only on the organizational structure, flow oriented planning and the superimposed communication structure. Starting with the choice of the site we have to consider decisive factors such as connection to road and transport system (time factor and traffic development), communications, energy supply, structure of the

population with respect to the recruitment of manpower and the geographical situation, in order to make sure that people will be satisfied with their jobs. The constructional design of the buildings must correspond to the particular requirements resulting from the personnel employed, the equipment and material used and the intermediate and final products elaborated. Furthermore there are two aspects of safety/security which have to be respected. On the one hand side there is constructional safety (statics, prevention of accidents and fire protection); on the other hand there is physical security, which includes anti-intrusion protection and the guarding of the facility as well as the establishment of restricted areas (e.g. for the storage of classified material or for data precessing systems) etc. The respective requirements result form the explanations contained in chapter 6.

6.1 Organizational Structure

The organizational units must be housed in accordance with their tasks, so that they can be clearly subdivided according to their inner structure. At the same time they must be accomodated in accordance with their position and competence within the hierarchical structure of the organization as a whole.

6.2 Flow-Oriented Planning

The functional aspect of the flow oriented procedures refers to the space requirement and distribution and to the object's itinerary through the various stages of the working process. This flow sequence has to be logical, efficient and as short as possible. Impediments disturb the working process, they cost time and money and have a negative effect on the social climate. Conflicts of interests may arise between the requirements imposed by flow oriented planning and those imposed by the working process. In such a case, priority should be given to the requirements of flow oriented planning.

6.3 Communications

Both aspects of the organization depend on a communication net. A perfectly functioning communication system is a prerequisite to the smooth functioning of the working process. While the official communication assumes a functional character, informal communication constitutes the basis for interhuman relations, thus influencing the social climate and the motivation of the personnel. The environment, starting from the individual work position, the lecture rooms, the common room and the cafeteria and ranging to the entire complex of buildings should facilitate and promote communication.

6.4 Physical Security

As an object and according to its content, information requires particular security measures. Even though most of the information is freely available and not subject to any security classification, there is a large range of military and non-military literature of a very sensitive nature, which thus requires secrecy. Apart form mere military documents, where secrecy is implicitly required, mention should be made of research studies and studies of a civil-military or even of a purely civilian character. But even the collecting or compiling of unclassified documents according to certain criteria may suggest conclusions concerning the user's interest, which in itself, might well require secrecy. Finally, even the equipment and methods employed in the I&D process (information and documentation) require some security measures. In this context a mere reference be permitted to electronic data processing and to data protection. To be able to implement this protection of classified material, which is dealt with in more detail in chapter 6, some prerequisites are required. With regard to the physical layout and engineering requirements of the I&D services' buildings the kind and scope of this physical security depend on the question whether one or several buildings within or without a military facility are concerned. According to the answer to this question, quite a number of criteria such as
- access control
- determination of restricted areas
- safekeeping of classified material
- protection of data processing systems
- protection of data processing areas
- protection against unauthorized access to and interference with stored data
have to be respected.

This enumeration is to serve as an example only, since the specific form of an I&D system and the field of application are the decisive factors. The infrastructural requirements are a function of these factors.

7. FUNDS

Since information is a kind of resource, an I&D service is meant to save budgetary funds by supplying relevant information. In order to comply with this task, the I&D service has budget for financing recurring expenditures for staff, equipment and material. It is presumed a priori that these funds are employed in accordance with the principles of planning, profitableness, efficiency and economy. Yet, the allocation of sufficient funds is a prerequisite to the fulfillment of the task; and this is the point where the circle closes. Expenditures must be incurred in order to save by means of future-oriented investments, which serve the public interest. Yet, cuts which prevent the I&D service

from fulfilling its task, are misinvestments.

7.1 *Personnel expenditures* are recurring expenditures. They are a function of the required authorized personnel spaces (i.e. of their number and their respective remuneration). Contained herein are the costs of initial and extension training as well as the costs incurred for welfare and support of personnel employed. *Entertainment allowances and travel* expenses occupy a special position; for the sake of clarity, these expenditures are contained under this item.

7.2 The cost of material is both a capital expenditure and a recurring and special expenditure. Capital expenditures comprise all those costs incurred in initially equipping an I&D service. They are a function of the ofjectives and thus calculable.
Recurring costs comprise the expenditures for the procurement of documents, for accessing external data bases, payments for leased equipment and for other services as well as for making available information (automatic information services, SDI, search runs). Special expenditures arise from the necessity to axquire new equipment in order to keep pace with technological progress (innovation). Even though these expenditures are not calcualble, they can be prognosticated.

7.3 *Material required for training and work* (items 5.3 and 5.4) can entail both recurring and nonrecurring expenditures, unless technical equipment is concerned. Thus, these expenditures can be calculated or at least prognosticated on the basis of pragmatical values. This applies also to the expenditures for paper, film material, chemicals for the operation of technical equipment etc.; an increase of these expenditures has to be taken into account. In this context, the statistics on the quantity of information supplied form a basis for planning. The validity and reliability of these statistics enhance with the number and variety of the data recorded.

Starting from the initial estimates, all these costs are influenced by the development (of the development) of the I&D system. Hence the necessity to adjust the volume of the budget constantly to current requirements.

8. ACCEPTANCE

There are two aspects relating to the user's readiness to accept the information offered by the I&D service (acceptance). On the one hand it can be presumed that there is a certain readiness to accept the information offered by and I&D service. The interest profile of the potential users and groups of users has to be traced and then the respective discipline and the scope of coverage have to be defined (see para 2.2). It depends on the relevance, completeness, topicality and usability of the information offered, whether or not the user's expectations are fulfilled. Concrete statements concerning these questions are provided by empirical sociology. The second aspect of acceptance consists in enhancing existing acceptance and in creating widespread approval among users by means of argumentative persuasion. An information service and aggressive public relations work are relevant for both aspects.

8.1 Information Services

User requests for information material are based on existing acceptance. A high degree of recall and precision ensures that the user's expectations are met by the quick supply of relevant, up-to date documents, which must, above all, correspond to the needs of the user. The interest of the potential, yet hesitating user must be evoked by means of an aggressive offer of information material whose presentation, contents and scope appeal to the potential user. In this case, relevance cannot be the decisive criterion, since we can only guess what information the reader will actually require. It is of paramount importance to convey a general idea of what is available to the reader. (It must, however, be emphasized that he is offered a selection of documents only). If the reader requests a certain document, which has aroused his interest, and if his expectations are fulfilled, the I&D service has achieved a partial success.
In this context, references to literature available from external data bases constitute a special case. This problem has been dealt with under para 5.1 .

8.2 Public Relations Work

Public relations work is an important, yet frequently neglected means of creating acceptance. First of all, the potential user has to be informed about the existence of an I&D service and about the type and scope of its services. His interest must be aroused in order to incite him to put the information service to the test. The result of this test must be convincing (see above). A defense-oriented I&D service has the duty but also the opportunity to influence the potential user by a variety of measures. Some of these are:
- dissemination of information during military training (e.g. training for officers)
- dissemination of information to certain target groups at the I&D service's headquarters
- engagement of contracting partners for the use of the I&D service
- presentation of the I&D service in the media for the potential user
- intensive contacts with military training institutions

- intensive contacts with the user.
  In a nutshell the best public relations work consists in fulfilling the user's expectations, while even the best public relations work is of no use, if the user is deluded in his expectations.

8.3 Definition of User Groups

The I&D service pursues the objective of satisfiyng the user's need for information. Ascertaining the quality and quantity of the information required means more than just to establish a criterion for planning (see 2.2). Conclusions concerning the degree of relevance can be obtained by constantly checking whether the information offered corresponds to the changing information needs; whether the user's expectations are fulfilled or not, depends on the quality and quantity of the information offered. As a whole, these findings constitute a yardstick for the measurement of success, whose validity depends on the question whether the findings are secured or not. Hence the need for the application of methods and procedures developed by empirical social research. These methods and procedures have to be applied with respect to discipline and coverage and with respect to the various types of information available. Doing this, the I&D service is able to keep pace with development, to fulfill its task and to justify the investments.

9. FUTURE DEVELOPMENTS

Since the knowledge of mankind is constantly increasing, the making available of information acquires the importance of a resource. The socio-cultural, economic, technological and political development of any given society, i.e. its future survival, will depend increasingly on information. In the wake of technological progress sophisticated means are developed for the procurement and dissemination of information in order to create an "informed scociety"; the I&D service uses this technology for the dissemination of information. I&D is a dynamic process. The I&D service must develop at the same rate as does the knowledge of mankind and technology. Proven methods and procedures can be optimized by using new technologies; on the other hand, certain methods and procedures will be rendered obsolete by these new technologies. In this context be it sufficient to refer to electronical publication, i.e. the author enters a given integral text into a data base, from where the user will retrieve it at his own terminal. But how is he to know of the existence and contents of the document ?

At this point, the I&D service enters into the picture: Qualified, highly motivated personnel and modern technology combine to achieve the ideal of an informed society.

APPENDIX 1

The Terms of Reference to Defense Documentation

It is the prime function of every documentation system to provide infor-   Scope of
mation to its user community. I&D services must always be user-oriented,i.e.   functions
the must be tailored entirely to their potential users' information needs.
Defense documentation has to cater for a large variety of users, such as the
Federal Minster of Defense and his subordinate bodies, the Armed Force, mi-
litary training establishments, research institutes and industrial firms wor-
king on defense contracts. The list of defense-related disciplines or sub-
ject areas to be covered by I&D efforts is very long. It may almost be asser-
ted that the specific information needs of the broad user community and the
extremely broad range of subject areas covered by Defense Documentation are a
distinguishing feature of this service. So quite naturally, its scope of func-
tions is rather broad. The main tasks of Defense Documentation have been de-
fined as follows:
- Provide command elements at all levels with references to literature avai-
  lable in a timely and reliable fashion in order to facilitate planning,
  decision-making, training and public information work,
- Ensure the supply of defense-related information to I&D institutions and
  training establishments of the defense sector,
- Facilitate the exchange of information, incorporated into its system,
  within the defense community and ensure that relevant information is commu-
  nicated to authorized users as soon as possible,
- Render information services to other official agencies within the Federal
  Republic of Germany,to the North Atlantic Treaty Organization and to Germa-
  ny's allies as well as to MOD contractors for use in connection with R&D
  efforts.

Within this broad remit DOKZENTBw has the mission to ensure the centralized   Mission of
implementation of Defense Documentation. This includes the following activi-   DOKZENTBw
ties:

- Procurement, selection, abstracting and indexing as well as descriptive
  cataloguing of documents/pieces of literature,
- Collection and provision of a bibliographic record of specific documents
  emanating from within the defense community, such as R&D reports and studies,
- Buildup and maintenance of the computer-assisted central storage unit, where
  all "documents descriptions (= bibliographic citation plus indexing terms
  plus abstract of a document) are stored as document surrogates in lieu of
  actual hardcopy or microfiche,
- Buildup and maintenance of the document master collections (hardcopy plus
  microform) from where the full text of an original document may be obtai-
  ned,
- Automatic Information Services rendered by DOKZENTBw without user request
  in the form of periodically published abstract journals (BWDOK-INFO Series)
  and subject-related bibliographies (BWDOK-INFO Special Editions), which are
  issued from time to time.
- Demand Information Services rendered by DOKZENTBw upon specific user request
  in the form of literature searches. These searches are conducted to meet
  user requests for background information on selected topics. This service of-
  fers the possibility of supplying to the user, without further request, and
  at periodical intervals, a record of information pertinent to his subject
  interest, which isupdated and deposited into the computer's data bases from
  time to time (Selective Dissemination of Information = SDI),
- Supply to the user of document copies requested by him on the basis of the
  literature referred to in the abstract journals, and of the references re-
  trieved as a result of a literature research,
- Provision of documents via other I&D agencies in the Federal Republic and
  aborad and - as far as possible - exchange of information with other defen-
  se documentation centers.

In the following chapters these activities are described in greater detail,
with special emphasis on the information services offerd by DOKZENTBw.

Another important mission incumbent upon DOKZENTBw is to develop the documenta-
tion practices applicable to Defense Documentation and to ensure standardiza-
tion of the methods used by it. To do this, novel technologies and organizatio-
nal changes that might have an effect on I&D activities must be closely observe!
and assessed for feasibility. DOKZENTBw's authority with regard to I&D matters
over the decentra.ized constituent elements of Defense Documentation also deri-
ves from the above-mentioned mission. Important instruments to fulfill this
mission are:

. A permanent exchange of experience with other documentation agencies in the Federal Republic of Germany and abroad, as well as with various organizations, institutions, government agencies and specialized panel, engaged in stimulating advances in the field of information and documentation, in developing and testing new techniques, in conducting I&D training or in protecting the interests of professional associations belonging to the I&D sector. Such exchange of experience is not limited to Defense Documentation matters, but refers to information science and its practical applications as well as to the training efforts conducted in the field of I&D.
. Active participation in spezialized I&D panels and in I&D training courses not conducted at DOZENTBw, if the manpower situation permits to do so.
. Preparation of in-house instructions applicable to Defense Documentation and governing the presentation of information in BwDOK-INFO Series and Special Editions (FachADOK).
. Uniformity in specialized and advanced I&D training for future full-time and part-time personnel employed in Defense Documentation. This training is conducted, wholly or in part, on the premises of DOKZENTBw.

APPENDIX 2

Definition of User Groups

A   Federal Ministry of Defense

B   Agencies of the Federal Armed Forces, Command Headquarters up to the Division Command (incl.)
    exceptions: Federal Office for Military Technology and Procurement (D) and
                agencies pertaining to the Federal Armed Forces administration (E)

C   Universities, academies, scientific institutions and training centres of the Federal Armed Forces
    exceptions: Federal Office for Military Technology and Procurement (D) and
                agencies pertaining to the Federal Armed Forces administration (E)

D   Federal Office for Miltary Technology and Procurement and subordinate agencies

E   Agencies of the Federal Armed Forces administration (unless listed under item D), Military Justice, Armed Forces Religious Welfare Service

F   All those agencies pertaining to the Federal Armed Forces which are not listed under items A through E i.e. all remaining Command Headquarters, staffs and units, as well as the central military agencies of the Federal Armed Forces, the Central Medical Service of the Federal Armed Forces and territorial agencies and institutions)

G   Authorized official users (in the Federal Republic of Germany) and the legislative bodies of the Federation and the Länder

H   Authorized official users (outside the Federal Republic of Germany)

K   Authorized, non-official inquirers

LES SOURCES D'INFORMATION DANS UN SERVICE D'INFORMATION DE LA DEFENSE

par
Albert YANEZ
Adjoint au Sous-Directeur de l'Information Scientifique et Technique
Chef des Départements Banques de Données-Méthodes et
Relations Extérieures
- C E D O C A R -
26, Boulevard Victor - 75996 PARIS ARMEES

> "Knowledge is of two sorts : you either know the subject
> or you know where to find information about it"
> (Samuel Johnson)

RESUME

Pour traiter ce sujet vaste et complexe, on a choisi de le découper en autant de parcelles ou chapitres qu'il existe de catégories de sources d'information.

C'est donc une typologie générale des sources d'information qui sert de canevas général, pour un examen détaillé des choix qui peuvent être nécessaires dans un service d'information de la Défense, à l'occasion de la création ou au cours de l'évolution d'un tel centre.

Bien entendu les choix seront dictés par des considérations liées à la mission et aux moyens, aux besoins de la population d'utilisateurs, en un mot à la nature du "Système d'Information Défense", lui-même conditionné par le dégré de perception que l'on a, au plan national, de l'importance de l'information en tant que ressource stratégique essentielle pour la souveraineté et la Défense du pays.

Autrement dit le centre d'information Défense pourra éventuellement trouver au plan national, un ensemble de systèmes ou de ressources coordonnés et lui-même d'ailleurs pourra éventuellement offrir ses propres ressources à des utilisateurs non Défense.

Les choix seront par ailleurs conditionnés aussi par le degré de modernisation que l'on aura atteint, ou que l'on se proposera d'atteindre, vis à vis des technologies modernes de l'information de la saisie à la distribution en passant par toutes les fonctions de traitement faisant appel à la bureautique, à l'informatique, aux télécommunications.

Enfin l'identification des sources et le développement de l'accès à ces sources n'est pas une fin en soi. Il restera essentiel de faire en sorte que les utilisateurs et utilisateurs potentiels soient sensiblilisés et formés et qu'ils puissent développer le reflexe du recours à ces sources.

INTRODUCTION

La typologie des sources d'information prise comme plan de cet exposé permettra d'introduire une certaine logique vis-à-vis de la "jungle" de plus en plus touffue des sources d'information, et de dégager des axes d'efforts susceptibles d'être recommandés.

Nous examinerons ainsi successivement les sources sous les aspects suivants :

- LOCALISATION, et dans l'ordre, sources internes à la Défense, puis sources nationales, puis sources étrangères. Ce chapitre sera le plus important, et notamment la partie consacrée aux sources internes à la Défense, pour la raison que le transfert de l'information Défense est au coeur de la mission du Service d'information Défense.

- NIVEAU D'ORGANISATION, dans l'ordre de la démarche à enseigner aux utilisateurs :

- répertoires de sources, puisqu'il faut bien commencer par identifier les sources et les évaluer.

- sources secondaires, pouvant offrir des informations de type signalétique et éventuellement aussi des données factuelles.

- sources primaires ou catalographiques, permettant de situer le document à commander en prêt ou en reproduction.

- CONTENU INFORMATIONEL : Ce sera l'occasion de montrer comment l'information est aujourd'hui organisée, et comment l'accès aux sources est facilité par une telle organisation, ceci à partir de exemples.

- TYPES D'UTILISATION, c'est à dire types de besoins et types d'utilisateurs.

- TYPES DE SUPPORTS proposés et technologie à mette en oeuvre vis à vis de ces supports.

L'objectif devra être d'identifier en permanence les nouvelles sources, de les évaluer, de faire en sorte que les utilisateurs soient tenus informés de leur existence, et que l'accès à ces sources soit facilité, sous certaines conditions, pour qu'en définitive puisse se développer le réflexe de s'informer, en dépit des obstacles.

1. LOCALISATION

1.1. Sources internes à la défense.

Il s'agit d'abord de collecter tous les documents significatifs générés par les services de la Défense, en trouvant les moyens de vaincre les éventuelles résistances (1) et mieux encore, d'inciter à rédiger et à publier toutes les fois qu'une activité mérite d'être enregistrée.

A cet effet, il importe qu'à un échelon très élevé, au niveau du ministre de la défense par exemple, une Instruction définisse ce que doit être la présentation et la diffusion des rapports (rapports au sens le plus large). Cette Instruction est fondamentale : elle doit montrer, sans être trop contraignante, comment l'auteur ou l'émetteur d'un document défense ou produit dans le cadre d'une activité sous contrat défense peut et doit préparer lui-même les traitements ultérieurs en fournissant une "page de titre" comportant un résumé et des notions d'indexage, une indication sur le niveau de protection et sur d'éventuelles limitations de diffusion (2). L'émetteur doit savoir qu'il lui appartient d'envoyer obligatoirement un exemplaire au service d'information défense, et diverses incitations ou sanctions peuvent être prévues à la clé (3) si c'est nécessaire.

L'objectif est de constituer une source unique de la littérature grise de la défense, documents primaires d'une part, signalements d'autre part.

La constitution du fichier signalétique défense doit être une entreprise coopérative. Chaque service ou établissement de la défense doit être invité à participer, même si sa contribution est modeste et dans les limites de sa spécialité, à préparer le signalement des documents qu'il émet ou d'autres documents qui lui paraissent importants. Bien entendu, ceci suppose une structure de coordination pour éviter les redondances et les lacunes, par exemple un plan annuel de dépouillement des publications en série, pour que chaque coopérant au fichier défense sache exactement ce qu'on attend de lui. Chacun doit appliquer les mêmes règles d'analyse et d'indexation et participer au développement du thésaurus défense. La couverture de ce fichier doit être aussi large que possible. Par exemple l'information scientifique et technique utile à la recherche et au développement n'est qu'un volet auquel il faut adjoint tout ce qui peut concerner l'évaluation de la menace (information et renseignement sur les forces étrangères), les études économiques, politiques et stratégiques de défense, les publications des services d'états-majors, du service de santé, des écoles, du service national, des services du matériel et des commissariats, des services du personnel, etc... Le fichier défense doit être le témoignage d'une réelle coopération entre tous les services de la défense, et chacun doit le percevoir comme son propre fichier, savoir qu'il y trouvera non seulement sa propre production mais aussi celle des autres, et donc de meilleures chances d'avoir des réponses aux questions posées. Cette solution est infiniment préférable à celle qui consisterait à segmenter le fichier signalétique et à disperser des fragments hétéroclites ici et là.

A titre d'exemple, le CEDOCAR a adopté pour les besoins de cette concertation le plan de classement COSATI, les descripteurs du thésaurus TEST (4) et des règles d'analyse et d'indexation issues de normes mises au point à l'époque avec l'AFNOR : norme sur les règles d'établissement des thésaurus en langue française (Z47-100 de Décembre 1973) et norme sur les principes généraux pour l'indexation des documents (Z47-102 d'août 1978) (6).Une correspondance au niveau des descripteurs, sur la base du thesaurus TEST et du plan de classement COSATI permettrait d'entrevoir pour l'avenir des échanges entre pays de l'OTAN, malgré l'obstacle de la langue, en permettant des recherches sur descripteurs, par simple transposition des descripteurs.

La sélection des informations entrant dans ce fichier doit être effectuée selon des critères bien définis. Par exemple doit-on signaler des documents de langues étrangères difficiles si l'on n'a pas de possibilités de traduction ? Doit-on signaler des articles de revues parues depuis plus d'un an ? Cette règle doit-elle s'appliquer aux ouvrages ? Doit-on signaler globalement les actes de congrès et signaler les mémoires séparément ? Ces critères étant posés, la sélection proprement dite sera confiée à une autorité particulièrement avertie quant aux besoins des utilisateurs, aux objectifs, aux programmes et orientations pour le futur, puisque le fichier défense constitue une réserve d'informations qui seront consultées pendant plusieurs années (on considère en général que cinq années en ligne constitue un minimum). Curieusement, le problème de la sélection, qui est fondamental, est rarement posé, et volontiers esquivé.

Le fichier défense doit présenter des résumés informatifs, éventuellement des données factuelles, des tables, et l'on doit tout faire pour dispenser l'utilisateur de recourir au document primaire si l'information essentielle peut être placée dans le signalement. La tendance est de fournir des analyses substantielles de qualité et il est clair que, si l'on dispose d'un logiciel de recherche sur texte, les possibilités de retrouver le document s'en trouveront considérablement accrues.

Le fichier défense, qui est le produit d'une sélection rigoureuse sur des critères bien définis, peut être, compte tenu des moyens qui y sont consacrés, d'un volume trop faible pour que la probabilité d'y trouver réponse aux questions posées soit suffisante.

La conséquence en est qu'il faut alors s'entourer, sur même site défense, de fichiers, ou extraits de fichiers d'autres origines susceptibles d'aider à assurer une meilleure couverture. A titre d'exemple le CEDOCAR a entouré son fichier FIESTA (fichier d'informations économiques, scientifiques et techniques de l'Armement) - Cf. Annexe 1 - d'autres fichiers signalétiques tels que DMT (Defense Markets and Technology, de Predicasts), NTIS (National Technical Information Service du Department of Commerce américain), Inspec (Grande Bretagne) pour l'électronique, Metadex et Materials business file (American Society for Metals) pour les matériaux, Compendex et Meetings (Engineering Information) de sorte que cet ensemble de sources permet de répondre, dans la majorité des cas, sans changer de serveur, c'est-à-dire sans avoir à divulguer les questions, et sans avoir à connaître d'autres langages d'interrogation. Une recherche pouvant être facilement réexécutée sur plusieurs fichiers, on va ainsi dans le sens d'une plus grande souplesse d'utilisation - mais ceci implique une étude documentaire et un travail de "reformatage"

des fichiers pour que, du point de vue de l'utilisateur, les champs interrogeables soient sensiblement les mêmes et que le contenu des champs soit normalisé et accessible de la même manière (par exemple noms d'auteurs, affiliation des auteurs, titre étranger, ISSN ou titres de publications en série, etc...).

En résumé, avec d'une part son fichier Défense, qui signale la littérature grise Défense et éventuellement d'autres publications intéressant la défense, et d'autre part des fichiers d'appoint qui apportent de la synergie aux utilisateurs, le service d'information défense sera crédible comme source à consulter en premier lieu.

Si l'on n'a pas automatisé, le même principe prévaut en ce qui concerne les publications signalétiques ou les fichiers papier que l'on regroupera dans une "référothèque" ou bibliothèque de références qui sera le lieu à consulter pour toute recherche d'information. A titre d'exemple le CEDOCAR regroupe ainsi de nombreuses collections de bulletins signalétiques et index mais il va sans dire que, depuis que des terminaux permettent d'accéder au fonds signalétique en ligne, la référothèque est de moins en moins fréquentée, l'utilisateur préférant la source la plus facilement accessible (terminal installé chez lui).

Indépendamment du fichier Défense qui vient d'être évoqué et des fichiers d'appoint qui l'entourent, il convient que le service d'information défense soit chargé de coordonner et de promouvoir les diverses sources d'information appelées à se développer dans la Défense, par exemple fichiers ou banques de données factuelles issues de centres d'information spécialisés, de centres de documentation ou d'instruction, des directions du matériel. Il apparait en effet de plus en plus évident que des ponts doivent être construits entre des systèmes utilisés séparement alors qu'ils pourraient se compléter. Des études sont à conduire pour arriver à cette mise en commun des ressources de la Défense, en allant au-delà de ce que peut apporter un simple répertoire, comme celui du DTIC aux Etats-Unis (5). Il convient donc de développer des logiciels multimédia relationnels à cet effet.

1.2 Sources nationales

Parallèlement au système d'information défense à constituer pour les besoins des usagers défense, et éventuellement d'usagers hors défense (pour ce qui concerne la partie ouverte), système qui devra pouvoir évoluer pour constituer toujours la source de premier plan et de première qualité des usagers défense, il appartient à chaque pays, dans le cadre des recommandations du projet UNISIST (6) de l'UNESCO de constituer son système national d'information, c'est-à-dire, autour d'un point focal de coordination, d'organiser les systèmes d'information nationaux en un vaste ensemble cohérent (NATIS) (7). Le service d'information défense pourra utilement être présent pour apporter son point de vue dans les instances où se définit la politique nationale de l'information, s'il est vrai, comme nous le pensons, que l'information fait partie intégrante de la défense. En effet, quels que soient les efforts déployés pour l'étude des besoins et donc pour la définition du contenu du fichier défense, des besoins tout à fait imprévisibles ou tout à fait spécifiques apparaitront et nécessiteront un recours, parfois systématique, à d'autres sources, et la démarche normale sera bien entendu d'attaquer les sources nationales avant de se tourner vers des sources étrangères.

A titre d'illustration de ce propos, l'utilisateur défense devra pouvoir accéder aux informations administratives (produites par des administrations ou sur financement de l'administration, quel que soit le domaine concerné. Ceci implique que la Défense fasse pression pour obtenir, si ce n'est déjà fait, que ces documents soient collectés en un point, homologue du NTIS (National Technical Information Service) des Etats-Unis, et soient traités pour être signalés et rendus facilement accessibles, puissent éventuellement servir de monnaie d'échange avec l'étranger ou approvisionner des sources internationales de littérature grise telles que SIGLE (Système pour l'information sur la littérature grise en Europe).

De la même manière, l'utilisateur défense devra avoir accès à toutes les sources d'information pluridisciplinaires ou sectorielles constituées sur le territoire national.

A titre d'exemple, le CEDOCAR offre à ses utilisateurs défense, outre son fichier signalétique FIESTA et quelques autres fichiers chargés sur son ordinateur, un accès au serveur national Télésystèmes / Questel. Autrement dit la production signalétique de la plupart des sources françaises est ainsi accessible par le même langage d'interrogation (QUESTEL). En outre, la commande en ligne des documents primaires émanant des usagers défense est automatiquement renvoyée au CEDOCAR, qui fournit immédiatement le document s'il le détient ou se charge d'intervenir auprès de la source qui détient le document primaire, et en cela il assure un service et en même temps une protection.

Ceci revient à reconnaître au CEDOCAR le rôle de "guichet unique" vis-à-vis des sources d'information extérieures (nationales ou étrangères).

1.3. Sources étrangères

Vis-à-vis des sources nationales et étrangères, cette notion de guichet 'mplique que le service d'information défense se charge :

- d'assurer la formation et le perfectionnement des utilisateurs.

- de distribuer les accès (numéros d'usagers et mots de passe).

- de répercuter les informations des serveurs et des producteurs de bases,

- de répercuter la facturation,

- de retransmettre les listages en différé...

- d'assurer l'accès aux documents primaires commandés en ligne.

- de recueillir et d'analyser les réactions des utilisateurs, etc...

Tout ceci représente une lourde charge dans la mesure où les serveurs commencent à être nombreux, du fait qu'ils proposent des langages d'interrogation et des conditions d'accès différents.

C'est pourquoi le centre d'information défense doit un jour ou l'autre se préoccuper de l'évolution de cette fonction de guichet, et introduire un ordinateur frontal qui aidera et protègera l'utilisateur. Voir à ce sujet le document AD-A 161 701 du DTIC intitulé "the DOD gateway information system" qui constitue un exemple, tout comme le système EASYNET, de solution ou début de solution à ce problème de l'accès à plusieurs sources extérieures.

Bien entendu, quelle que soit l'aide apportée à l'utilisateur par le recours à l'informatique, la recherche sur sources extérieures ne doit intervenir qu'en dernier ressort, lorsqu'on à épuisé les possibilités des sources internes à la défense.

2. Niveau d'organisation

Il convient de bien montrer aux utilisateurs que la démarche naturelle pour s'informer ne peut plus être aujourd'hui de commencer par la recherche du document primaire dans sa bibliothèque, mais qu'elle passe d'abord par l'identification de la source (répertoires de sources), puis de la source secondaire ou tertiaire, puis, éventuellement, de la sources primaire.

2.1 Répertoires de sources

Ils peuvent être édités sur papier ou être accessibles en ligne à partir d'un support magnétique. Il pourra s'agir de listes de serveurs, de centres d'information, de banques de données, d'experts, etc.

A titre d'exemple, on peut citer :

- Annuaire des banques de données françaises - Ed. GFFIL/A. Jour.

- CODATA directory of data banks.

- Directory of computerized data files - PB 84-160126.

- Defense technical center referral data bank directory ADA138400.

- DIANE directory of data bases and data banks in Europe.

- CUADRA Directory of on-line data bases.

sans parler du répertoire de Martha Williams(3) ou de répertoires accessibles en ligne comme REBK ou ORIADOC ou LABINFO en France et DIANEGUIDE au Luxembourg, ou bien encore "Annuaire des Services Teletel (Videotex).

C'est en consultant ces répertoires, régulièrement mis à jour, que l'on pourra identifier des sources à évaluer et à faire connaître à ses utilisateurs. Une manière d'aider les utilisateurs, c'est d'établir pour eux une liste des sources susceptibles de les intéresser, liste accessible par index thématique, ou par serveur, ou par fichier. La situation est si évolutive qu'un tel document devra être révisé régulièrement.

2.2. Sources secondaires.

Pour l'évaluation des sources, le service d'information défense pourra utilement regrouper les documents tertiaires et secondaires (bulletins signalétiques et index) dans une bibliothèque de références ou référothèque ouverte aux usagers. Mais là encore, les publications se présentent de façon si variée ou inattendue qu'il pourra être utile de former une ou plusieurs personnes capables de guider les utilisateurs.

On regroupera dans cette même référothèque tous les documents de référence tels que encyclopédies, collections à mise à jour permanente, thésaurus, lexiques et dictionnaires... qui seront offerts en consultation mais devront être exclus du prêt.

Malgré toute l'aide que l'on apportera à l'utilisateur, celui-ci perdra beaucoup de temps à ces consultations souvent agaçantes et il souhaitera obtenir un accès plus rapide et plus moderne à l'information. La question se posera alors de savoir si tel ou tel fichier doit être rendu accessible en ligne, à partir d'un serveur extérieur, ou s'il ne faudrait pas charger le fichier considéré à côté du fichier défense, en le "reformatant" pour le rendre accessible dans les mêmes conditions.

Avant toute décision qui engage l'avenir, il conviendra de conduire une étude économique, et ergonomique, pour comparer les solutions en présence, peser les avantages et les inconvénients, prendre l'avis des utilisateurs en leur indiquant le prix à payer, mesurer les performances, etc...

Le chargement sur site défense peut être décidé pour un impératif de sécurité, à moins qu'un système de guichet évolué, comme celui dont il a été question plus haut, soit jugé préférable.

2.3. Sources primaires.

Toute information signalée par le fichier défense doit pouvoir conduire au document primaire, ce qui signifie qu'on évitera de signaler dans ce fichier des documents dont on sait qu'ils sont inaccessibles. Dans le même ordre d'idée on évitera de produire un signalement ouvert pour un document protégé qui pourrait être ensuite refusé à un utilisateur. Le fichier défense ouvert doit se rapporter à des documents ouverts. Il peut alors être rendu accessible en ligne, ce qui ne saurait être le cas du fichier classifié.

La commande en ligne des documents primaires, qu'elle concerne le fichier défense ou d'autres fichiers chargés sur le serveur défense doit être satisfaite dans les moindres délais, que le document soit immédiatement disponible ou qu'il ait à être demandé à une autre bibliothèque. Là encore on fera pression au plan national pour que se constitue un réseau de bibliothèques ou un organisme central de reproduction et de prêt comparable au BLDSC (British Library Document Sypply Center de Boston Spa au Royaume Uni) ou à l'OCLC (Ohio college Library center aux Etats-Unis). L'idéal est en effet que la commande en ligne qui ne peut être satisfaite immédiatement soit aiguillée automatiquement et sans délai, par "dépôt" dans une boîte électronique telle que le service ARTTEL (automatic request transmission by telephone) du BLDSC dépôt effectué par le service d'information défense pour le compte de ses utilisateurs.

3. Contenu informationnel

L'annexe 2 présente quelques exemples concrets de sources d'information textuelles (de type bibliographique ou en texte intégral), ou factuelles, ou mixtes.

L'examen de cette annexe montre que la première difficulté vient du fait que les sources utiles à la Défense se répartissent sur un grand nombre de serveurs (pour ce qui concerne la recherche en ligne, ou de producteurs pour ce qui concerne les produits papier et documents primaires associés.

Par exemple sur ECHO on trouvera le guide des banques de données de DIANE (Direct Information access network in Europe), sur G-CAM le guide REBK (qui est en fait le répertoire de l'ANRT - Association Nationale de la Recherche Technique). Ces deux guides sont aussi distribués sur support papier.

- WTI (World Transindex) sur ESA / IRS comprend l'ensemble des signalements de traductions effectuées par les organismes européens participants. Il existe aussi sous forme de bulletin.

- SIGLE (System pour l'information sur la littérature grise en Europe) donne accès aux documents primaires collectés au niveau européen, en dehors des circuits commerciaux existants. Il contient des domaines tels que sciences militaires et armement. Il est accessible sur serveur INKA (RFA).

- NTIS (National Technical Information Service) est accessible en ligne sur plusieurs serveurs, dont le CEDOCAR, ou par souscription aux bulletin GRA (Government Research Abstracts). Les documents primaires sont vendus sur support microfiche.

- NASA est placé sur serveurs IRS/ESA, DIALOG et disponible aussi sous la forme du bulletin STAR.

- Ei Meetings (au CEDOCAR) regroupe les mémoires de conférences (à la différence de MEETING sur Questel, qui concerne les annonces de manifestations).

- PASCAL est un fichier scientifique pluridisciplinaire accessible en ligne sur Questel ou sur bande magnétique, ou sur bulletins thématiques.

- INPI, DERWENT (sur Questel) INPADOC, PATSEARCH (sur Infoline) permettent l'accès aux brevets. Le brevet a une grande valeur documentaire et le service d'information défense doit s'y intéresser au premier chef.

- STDS & SPECS (normes et spécifications) sur IRS, et NORIANE de l'AFNOR (sur Questel) permettent de couvrir une bonne partie du domaine de la normalisation. Les collections de normes sont disponibles sur papier et accessibles aussi à partir de catalogues dont la mise à jour est généralement assurée par le fournisseur.

- NEXIS (Téléconsulte), WORLD REPORTER (datasolve) sont des exemples de banques de données en texte intégral concernant la presse écrite ou parlée (radio). Un produit papier accompagne le produit offert en ligne.

On arrive ensuite à des banques de données mixtes (textuelles/factuelles, comme :

- CAS/DARC (Questel) permettant, à partir de la description d'une molécule chimique, l'accès à une information textuelle sur le produit, et l'utilisation de cette source peut être améliorée par l'emploi d'un terminal graphique.

- DMT (Defense Markets and Technology) produits par Predicasts propose des informations textuelles mais aussi de tableaux et données factuelles que l'on obtient facilement en croisant la question avec certains mots-clés (factual data, tables).

- DHS (Defense Market Surveys) de Predicasts sur serveur DRI propose des données textuelles et factuelles sur les contrats d'armement, les forces armées des pays de l'OTAN ...

- CRONOS-EUROSTAT, séries macroéconomiques européennes sur serveur CISI/Wharton est un exemple parmi de nombreuses sources du domaine économique et financier pouvant intéresser la Défense.

Enfin des données factuelles sont acessibles sur des secteurs spécifiques :

- Thermodynamique (thermodata sur IRS/ESA)

- Satellites (Sateldata sur IRS/ESA)

- Composants électroniques (Spacecomps).

- Ergonomie (Ergodata) pour l'étude d'un poste de travail, etc...

4. Types d'utilisation

Deux types de besoins sont à considérer : un besoin d'information rétrospective, tourné vers le passé, qui correspond à la recherche bibliographique, et un besoin de veille, d'information continue, tourné vers l'avenir, qui correspond à la diffusion sélective d'information, sur profils.

Pour satisfaire ce deuxième type de besoin, le service d'information défense devra mettre au point avec ses utilisateurs des équations de recherche adaptées pour balayer ou explorer régulièrement les informations les plus récentes et offrir des DSI en ligne ou imprimées. Comme beaucoup d'utilisateurs répugnent à exposer leur besoin et à participer à l'équation de recherche, il pourra être utile de préparer des DSI standard ou thématiques auxquelles il n'y aura plus qu'à s'abonner. Cette source d'information est très appréciée, sous réserve que les thèmes soient bien choisis, et que le contenu soit assez pertinent, ce qui implique l'utilisation de descripteurs, plutôt que de mots du langage naturel. Il faut aussi que le volume de signalements proposés par exemple tous les quinze jours soit restreint, par exemple une douzaine de signalements bien pertinents.

Quelle est ensuite la typologie des utilisateurs ? Schématiquement ceux-ci se répartissent en trois groupes, qu'il faut satisfaire :

- Les décideurs, qui ont besoin d'informations très synthétiques et non de références de documents. Il faudra donc être capable de fournir des synthèses, notamment sur les grandes questions d'actualité, des statistiques, des données numériques validées...

- Les courtiers (documentalistes assistant l'utilisateur final) qui auront besoin de documents de référence, ceux de la référothèque, de bulletins catalographiques et signalétiques, de répertoires de toutes sortes, de manuels, de thésaurus, d'encyclopédie...

- L'utilisateur final, qui aura besoin de formation et d'assistance, et dont il faudra analyser le comportement vis à vis des produits et services qui lui sont proposés, pour connaître la source de ses inhibitions ou de ses frustrations ou insatisfactions vis-à-vis des sources qui lui sont proposées. En d'autres termes l'utilisateur est lui-même une source d'information dont il faudra faire le plus grand cas... pour l'évolution des produits et services offerts (rétroaction) (10).

Types de supports

La plupart des sources offrent un choix entre produits papier (par exemple bulletins et index) et des produits lisibles par machine ou nécessitant un recours à l'informatique et aux télécommunications. Il est clair que la télématique apporte aujourd'hui des avantages substantiels. Encore faut-il disposer de toute l'infrastructure nécessaire : réseaux de transmission de données, moyens informatiques et informaticiens. Les technologies modernes de l'information offrent tout un éventail de choix et de possibilités. Du fait que le recours à l'informatique est inéluctable, peut-être vaut-il mieux quelquefois brûler des étapes et y venir le plus tôt possible.

On sera alors en mesure de choisir des supports tels que la bande magnétique, et demain les disques optiques numériques, et pour les documents primaires la microfiche, et demain l'accès par voie électronique aux documents.

X X
X

En guise de conclusion on ne peut qu'insister sur l'intérêt que présente l'utilisation des nouvelles technologies de l'information, sous réserve que le service d'information défense étudie pour ses utilisateurs un véritable système évolutif et perfectible et que par une formation appropriée des utilisateurs, il parvienne à développer chez eux le réflexe du recours à l'information, en les aidant à identifier les sources, à y accéder et à en tirer le meilleur parti.

L'évolution du Service d'Information Défense passe normalement par les étapes suivantes :

- Evaluation des produits papier (bulletins signalétiques et index, manuels, recueils de données factuelles).

- Acquisition de bandes magnétiques, s'ajoutant à sa propre bande magnétique (fichier défense) pour les sources les plus interrogées, à regrouper sur site défense.

- Guichet pour l'interrogation des sources extérieures (nationales ou étrangères) si les réseaux le permettent et/ou, bientôt, acquisition de CDROMs (disques compacts), si le marché de ce support se développe.

- Effort permanent pour responsabiliser l'utilisateur final sur tous les plans. (connaissance des sources - art de les utiliser - participation au fichier défense).

REFERENCES

(1) - Instruction n°22/DMA/BMTM du 1er Mars 1982 sur la présentation et la diffusion des rapports techniques de la Délégation Générale pour l'Armement.

(2) - A guide to the Layout of Technical publication by A.H. Holloway.

(3) - DTIC/TR-84/2 - AD-A138.400 - Defense Technical Information Center - Fév. 84.

(4) - TEST Thesaurus of Engineering and Scientific Terms (DOD et Engineers Joint Council) 1972.

(5) - Defense Technical Information Center Referral data bank directory.

(6) - BSI Guide to Establishement and development of multilingual thésauri.
       BS 6723 : 1985 - ISO 5964-1985.

(7) - NATIS - La politique nationale d'information. UNESCO - Paris 1976. COM 76/WS/3.

(8) - The DOD Gateway information System. DTIC/TR 85/16-AD-A 161701. Octobre 1985.

(9) - M.E. Williams, Amsterdam. The Netherlands. North Holland 1985 - 2 volumes
       ISBN 0444876154 - Dfl 675.

(10) - Les nouvelles technologies de la documentation et de l'information.
       Etude présidée par J. Treffel ISBN 2-11-001404-0.

(11) - Non technical factors influencing information systems - A. YANEZ.
       AGARD-CP-304. In what should users expect from information storage and retrieval systems in
       the 1980's ? Déc. 1981.

(12) - Use of external information services - Norton (T.) - AGARD CP - 294.

(13) - Networks and external sources of information - Eckert (P. F.), Wynne (H. G.), Martin (W.A.),
       Bodini (A.) - AGARD A6-235 Vol. 4.

ANNEXE 1. - SOURCES D'INFORMATION DES USAGERS DU CEDOCAR

USAGER

SUNITS (CCN)
CNRS/CDST
BLDSC

Médiathèque
Référothèque
CEDOCAR
Prêt
Reproduction

Education   Formation   Correspondant local

GUICHET

Serveur TS/QUESTEL
CAS/DARC   PASCAL
INPI
DERWENT

Serveur CEDOCAR   Exploitation CEDOCAR   Centres Spécialisés
NTIS   DMT   MET. + MATBUS   Hors Défense
INSPEC   EI.COMP+MEET   Défense

Bq.données factuelles

Autres Serveurs Français

FIESTA { CEDOCAR { Coopérant, DEF, AERO { et Hors DEF.

Serveurs Etrangers

ANNEXE 2. - CONTENU INFORMATIONNEL (Exemples d'utilisation CEDOCAR)

TYPE	BANQUES DE DONNEES	SERVEURS		CONTENU
TEXTUELLES	DIANEGUIDE	ECHO		guide
	WTI	"		traduction
	EURODICAUTOM	"		dictionnaire
OU	NTIS + FIESTA	CEDOCAR + TS/QUESTEL		litter grise
	EIMEET + COMP.	"	"	Sc. ingénieur
	INSPEC	"	"	électronique
	D M T	"	"	défense
	METADEX + MATBUS	"	"	matériaux
MIXTES	PASCAL	"	"	sciences et techniques
	CUADRA DIRECTORY	"	"	guide
	INPI	"	"	brevets
	CAS / DARC	"	"	chimie
	NORIANE	"	"	normes
OU		"	"	
	REBK	G - CAM		guide
	STDS & SPECS	ESA / IRS		normes
	NASA	"		espace
FACTUELLES	CETIM	"		mécanique
	SIGLE	INKA		litter grise
	D M S	DRI		défense
	F M I	CISI/WHARTON		(macroéconomique
	OCDE	"		) comptes nationaux
	INSEE	"		(statistiques

LE TRAITEMENT DE LA LITTÉRATURE GRISE

par
Claude J. SALMON

Chef du Service Documentation de LABORELEC
Rue de Rhode, 125 - B- 1630   LINKEBEEK (BELGIQUE)

RESUME

La littérature grise représente une quantité phénoménale de documents qui touchent tous les domaines,
aussi bien scientifique et technique que social, économique. Bien que tous les documents de littérature
grise ne possèdent pas les mêmes niveaux de qualité, leur valeur est reconnue aujourd'hui et n'est plus
mise en doute; elle représente pour beaucoup une des sources principales d'information et de publication.
Cependant, la littérature grise reste actuellement un des points faibles en matière documentaire: sa dé-
tection, son acquisition, sa fourniture, sa catalographie etc.. posent, en général, des problèmes à ceux
qui s'en occupent. De plus, l'absence de normalisation et la difficulté d'en imposer une, si on veut
garder les avantages de ce type de littérature (souplesse, rapidité de parution entr'autre) rend le pro-
blème encore plus ardu. Il existe cependant des solutions possibles; l'une d'elles est l'organisation de
la collecte au plan national et international, qui permet non seulement d'accroître l'entrée des docu-
ments en nombre et en qualité, mais encore d'établir des recommandations techniques, permettant d'assurer
une meilleure compatibilité, tout en gardant au système une certaine souplesse tenant compte des
infrastructures et particularités nationales existantes; SIGLE et son organe de gestion EAGLE, ainsi que
la façon dont la littérature grise est traitée en Belgique en sont des exemples.

1.   INTRODUCTION

Lorsque j'ai commencé à m'intéresser à la littérature grise (c'était en '77), dans le cadre de mes
activités à LABORELEC, je ne m'attendais pas à trouver un domaine de l'information présentant tant de fa-
cettes et contrastes saisissants; en effet, si d'une part, j'ai découvert une information riche, diversi-
fiée, très intéressante, j'ai, par contre, également découvert un monde où règnent l'anarchie,
l'improvisation, ce qui rend ardu le problème de la connaissance et de l'obtention de cette littérature
non répertoriée, connue en partie par oui-dire, par contact personnel, échange etc...

Ensuite, en décembre 1978, j'ai eu la chance de participer, en tant que représentant belge, à un
séminaire européen organisé par la C.E.E. à York (U.K.) et dont le sujet était "la littérature grise".

Au cours de ce séminaire, j'ai été chargé de faire une étude pilote belge sur "la littérature grise",
étude qui s'est terminée en juin 79 et qui m'a permis de mesurer l'ampleur de cette littérature et son
impact sur tous les secteurs d'activités, tant privés que publics.

J'ai enfin participé, également en tant que représentant belge, aux travaux de SIGLE et actuellement
de EAGLE, travaux qui ont débouché sur la production et l'exploitation d'une base de données européenne
sur la littérature grise.

Votre colloque tombait vraiment bien pour faire le point et tenter de résumer cette expérience qui
dure maintenant depuis près de 10 ans ! Je vous en remercie.

2.   DEFINITION ET CARACTERISTQUES

Il n'est pas aisé de donner une définition rigoureuse et précise de la littérature grise, car défi-
nir la littérature grise, c'est expliciter son qualificatif "gris". En effet, la littérature grise prend
toute sa signification en comparaison avec la littérature blanche; dite aussi traditionnelle. Elles se
différencient autant par la forme, la présentation, le contenu que par la diffusion et la distribution.

La littérature grise se définit essentiellement par le fait que, sans être secrète, elle échappe aux
canaux normaux de publication et ne sera pas, par conséquent, distribuée ou diffusée par les canaux
traditionnels.

Les références ne sont pas signalées dans les bulletins et les périodiques d'information primaire et
rarement dans les secondaires; c'est une des raisons principales qui fait qu'elle est difficile d'accès.

Très souvent, la publication de cette littérature n'a pas été envisagée au moment de la rédaction,
ce qui explique sa présentation et sa forme simple, incomplète parfois, et de toute façon, sans aucun
respect pour les normes existantes en la matière.

L'objet d'un rapport de littérature grise est défini de manière très précise et vise un but plus
direct que les documents appartenant à la littérature blanche; il donne des informations spécifiques
pour des lecteurs précis.

Les documents de littérature grise sont reproduits en peu d'exemplaires, car, la plupart du temps,
ils s'adressent à un nombre limité d'intéressés, c'est-à-dire, les collaborateurs, les chercheurs et les
spécialistes dans des domaines similaires, proches ou annexes.

La littérature grise a un caractère universel; elle concerne les domaines les plus variés et les
auteurs et producteurs sont d'origines multiples, tant du secteur public que privé: ce qui lui donne
beaucoup d'ampleur et une typologie très diversifiée.

A titre d'exemple, notre enquête pilote a révélé que la littérature grise existait sous de nombreuses formes dans les différents secteurs.

Le secteur privé : brochures présentant l'activité des sociétés - documentation publicitaire - rapports d'entreprises - recommandations techniques - avis techniques sur des produits ou des procédés - rapports de recherche ou de développement - compte rendus et communications des conférences ou congrès très localisés ou très spécialisés n'ayant pas connu de diffusion normale, etc.....

Le secteur public : publications gouvernementales - certaines publications de sociétés savantes - rapport de recherche ou de développement - livres blancs, etc...

Le secteur mixte : il s'agit des publications produites par les universités et les écoles supérieures : travaux de fin d'étude - thèses de doctorat - rapport de recherche - syllabus de cours etc....

En résumé, définir la littérature grise de manière concise est difficile, tant les domaines qu'elle concerne sont vastes et les caractéristiques variées. Cependant on distingue des traits communs principaux qui la caractérisent :

- Elle n'est pas publiée, ni distribuée ou diffusée par les canaux normaux de publication.

- Son accès est difficile.

- Son contenu, très précis, s'adresse à un nombre limité et spécifique de lecteurs.

- Le nombre d'exemplaires publiés est faible.

3.   AVANTAGES DE LA LITTERATURE GRISE

De nombreux rapports et documents sont publiés sous forme de littérature grise, car ce type de littérature présente de nombreux avantages par rapport à la littérature blanche; ce type de publication offre en effet une grande souplesse et, par conséquent, une grande facilité dans la présentation; l'absence de forme précise de présentation laisse à l'auteur le libre choix dans sa rédaction et supprime les contraintes de présentation de la littérature blanche; il n'y a pas, ou très rarement, de norme de codification, de contrôles bibliographiques, règles d'écriture etc.

La rapidité d'émission est très grande, ce qui est son plus grand avantage : en effet, dans les secteurs de pointe, la recherche est actuellement si rapide, que parfois les documents accessibles en littérature blanche sont déjà dépassés au moment de leur publication; dans ces secteurs, seule la littérature grise permet aux chercheurs de se tenir vraiment au courant.

Ce type de littérature permet à l'auteur ou au producteur de contrôler la distribution de leur rapport. Très souvent, la fourniture des documents est conditionnée par une mesure restrictive (en tout cas dans le secteur privé) : le demandeur doit décliner son identité. Cette mesure permet de connaître les domaines d'intérêt des concurrents potentiels ou non, de nouer des contacts débouchant souvent sur un échange d'informations et parfois, cela s'est vu à Laborelec, sur la création d'équipes de recherche multinationales.

Dans le domaine commercial si, en principe la connaissance des centres d'intérêt des secteurs similaires est un atout, il ne faut cependant pas se leurrer, car la littérature grise prend très vite un teinte foncée et devient confidentielle pour tout ce qui n'entoure pas directement le producteur de littérature grise.

En résumé, les gros avantages de la littérature grise, sont la rapidité de publication qui assure une circulation accélérée de l'information auprès des intéressés, sa souplesse de présentation, le contrôle de sa distribution et la connaissance des spécialistes et des rapports similaires.

4.   IDENTIFICATION - PRESENTATION DE LA LITTERATURE GRISE - NORMALISATION

Si dans le paragraphe précédent, j'ai affirmé que la souplesse de présentation de la littérature grise est un avantage, cela peut devenir très vite un inconvénient pour le bibliothécaire ou le documentaliste si cette souplesse devient synonyme d'absence d'informations indispensables. En effet une enquête a montré que la présentation de cette littérature est parfois trop sommaire et incomplète; des spécialistes se sont penchés sur ce problème et ont tenté de rédiger des recommandations afin de permettre non seulement une lisibilité maximum et une reproduction aisée, mais aussi une catalographie normale ou en tout cas suffisante que pour répondre aux besoins du bibliothécaire ou du documentaliste.

Cependant, ces recommandations ne sont qu'une première approche de normalisation, sans que ce soit pour autant des contraintes pour les auteurs; en effet, il s'agit de garder à la littérature grise son caractère souple et rapide.

Une enquête menée auprès des producteurs et utilisateurs de littérature grise appartenant aux pays de la Communauté Européenne s'est interrogée sur les éléments bibliographiques essentiels qui permettent l'identification d'un document. Mon propos n'est pas de décrire, en long et en large, les résultats de cette enquête.

Ceux-ci ont fait l'objet d'une publication "sous forme de littérature grise" publication dont je vous donne les références et que je tiens, à votre disposition :

"The Bibliographic Presentation of Grey Literature", by cherie M. KNOWLES, Primary Communications Research Centre, Leicester University, England. (A report prepared under contract to the Commission of the European Communities - DG XIII - october 1979).

En résumé, cette enquête s'est intéressée au trois points suivants :

- Les éléments bibliographiques essentiels par ordre d'importance,

- Les éléments bibliographiques essentiels par type de document.

- La position des informations, c'est-à-dire, la place qu'occupent les éléments bibliographiques dans un document.

Les éléments bibliographiques essentiels retenus ont été : Titre - auteur - date de publication - n° rapport - série - nom et adresse de l'institution - disponibilité - prix - nombre de pages - détails concernant un copyright éventuel.

Cette enquête a conclu également, qu'il y a, chez presque tous les producteurs, absence de lignes guides, de règles de présentation.

Seules les sociétés où les rapports de littérature grise passent pas les services de documentation, présentent une certaine homogénéité, une constance dans la présentation où, en général, les éléments bibliographiques indispensables s'y trouvent, même s'ils ne répondent pas exactement aux normes en vigueur

Je pense que le rôle des services de documentation, tel qu'il est joué dans certaines sociétés privées, devrait être étendu à tous les secteurs et producteurs de littérature grise, afin d'assurer les éléments bibliographiques indispensables au catalogage et à la diffusion de la littérature grise

Par la suite, un échange d'expérience entre ces services de documentation devrait aboutir à la rédaction de norme, je devrais plutôt dire, recommandations, visant à assurer une homogénéité et une compatibilité parfaite dans les présentations bibliographiques des documents appartenant à la littérature grise, tout en sauvegardant, comme je viens de le dire, ses avantages de souplesse et de rapidité

5. COLLECTE ET ACQUISITION DES DOCUMENTS

On peut examiner 3 points :

- Quels documents va-t-on collecter ?
- Comment ?
- Par qui ? Quelle organisation va procéder à la collecte et à la fourniture des documents ?

Quels documents ?

Tout d'abord, il faut signaler qu'on ne pourra collecter qu'une partie de la littérature grise en effet, l'acquisition se base sur le bon vouloir des auteurs et des producteurs et sur le caractère de gratuité des documents; car les centres de collecte n'ont pas de moyens financiers suffisants pour l'achat systématique des documents.

Parmi les documents rassemblés, le problème de la valeur et de la pertinence se pose. Faut il collecter à tout prix, tous les documents quelqu'ils soient ? L'énorme quantité de documents risque de contenir des documents sans intérêt ni utilité qui encombreront les centres de collecte Ces documents exigent un travail de catalogage, d'indexation, une place de stockage, une gestion dans le système d in formation; leur introduction dans une système d'information entraîne par conséquent un coût non négligeable.

Autre problème : le centre de collecte ne peut valablement trier les documents selon leur contenu scientifique et technique; même si l'on a à faire à une équipe de spécialistes, sur quels critères vont ils baser leur choix ? Celui-ci restera toujours en partie subjectif. En effet, si un document n a pas de valeur pour eux, spécialistes, il peut cependant intéresser un chercheur moins spécialisé par exemple.

Une des solutions envisageables serait de laisser aux auteurs et producteurs le soin de choisir et de sélectionner les documents qui seront introduits dans les systèmes d'information des centres de collectes; cependant, on risque de perdre de nombreux documents parce que des auteurs ou producteurs trop modestes estimeront peut-être à tort, que leurs documents ne sont pas valables à l échelon d un public plus large.

Comme on le voit, le problème de la sélection des documents s'il est posé et si tout le monde est bien conscient de son importance, reste cependant sans solution définitive et il semble que le problème du choix des documents dépend, en général, de l'arbitraire des gens qui organisent la collecte

Comment ?

La collecte peut s'effectuer de manières différentes :

- selon le thème : on rassemble les documents concernant un domaine précis, dans un centre spécialisé dans ce domaine.

- selon la source, le type : les documents sont collectés selon leur type, uniforme indépendemment de leur origine et de leur thème.

De toute façon, la collecte doit se faire auprès de toutes les institutions, associations, organismes, auteurs, susceptibles de produire de la littérature grise, et cela, aussi bien dans le domaine public que privé.

Les méthodes d'acquisition de la littérature grise sont nombreuses elles sont surtout basées sur les échanges entre organismes producteurs, parfois les achats Pour encourager les auteurs à communiquer leurs documents, on peut, par exemple leur proposer en échange de leurs documents la consultation d'une partie ou de l'ensemble des fichiers les informer des nouveaux documents selon un profil défini   La motivation des auteurs ou producteurs semble être le meilleur moteur pour assurer une bonne collecte

Par qui ? Qui va organiser la collecte et la fourniture des documents ?

Généralement, la collecte et la fourniture de documents de littérature grise se font rarement de manière systématique elles se font plutôt de manière ponctuelle et spontanée Certains producteurs et auteurs annoncent et distribuent eux mêmes leurs publications mais cette pratique se limite à un cercle restreint et s'accompagne souvent d'échanges de publication entre les producteurs mêmes de littérature grise Certains services secondaires annoncent parfois cette littérature dans leurs bulletins mais n'assurent pas l'accès au document lui même Enfin il existe également des centres d'information et de documentation spécialisés qui fournissent des copies de documents dans un domaine limité

C'est pourquoi l'établissement de toute une structure de collecte et de fourniture des documents de littérature grise au niveau national se justifie pleinement elle se composerait d'une part d'un organisme central ou autorité nationale et d'autre part des centres dépendant de l'organisme central

Ces centres seraient choisis parmi les centres d'information et de documentation déjà existants et en fonction de leur domaine d'activité spécifique c'est à dire centres de recherche de documentation des facultés universitaires des bibliothèques des instituts etc

Leur nombre dépendrait des besoins et de la situation existante dans haque pays   eur rôle serait de collecter des informations et des documents de littérature grise appartenant à leur domaine dans une zone géographique déterminée et de les transmettre à l'autorité nationale

Cette dernière aurait un rôle à jouer tant au niveau national qu'international

Au niveau national elle aurait comme tâches de coordonner les activités des différents centres de rassembler et de répertorier les documents de littérature grise Elle aurait également pour mission de conseiller et d'éduquer en effet l'autorité nationale apporterait son aide et donnerait ses conseils non seulement aux centres de son aire spécialisée mais également aux auteurs et producteurs de littérature grise de façon à améliorer et petit à petit à standardiser la présentation bibliographique de cette littérature Enfin elle devrait s'occuper également de la gestion et de la fourniture des documents bref sa fonction clé serait d'être l'intermédiaire entre l'utilisateur et le producteur de littérature grise

Au niveau international l'autorité nationale assurerait les demandes et les échanges d'information entre les différents pays soit en communiquant les adresses et coordonnées des producteurs afin de faciliter les contacts soit en assurant la fourniture des documents

La mise en place d'un tel réseau prendra pour certains pays beaucoup de temps   faut changer les habitudes ce qui n'est pas facile de plus l'aspect financier et technique d'une telle organisation n'est pas négligeable

Cependant ne faut pas s'illusionner notre elle structure de collecte ne fonctionnera valablement que si les auteurs et producteurs de littérature grise y participent de leur plein gré Actuellement déjà on estime que toute une partie de la littérature grise échapperait à ce réseau pour diverses raisons méconnaissance du réseau les auteurs estiment que le document n'est pas valable pas de collaboration motivation difficile à déclencher et

Une solution pourrait être le contrôle bibliographique que avant toutes ces avantages et ces inconvénients sont à prendre en considération

4 LE CONTRÔLE BIBLIOGRAPHIQUE

Deux tendances s'opposent dans le choix d'un contrôle bibliographique

Les uns estiment que l'établissement d'un contrôle bibliographique contribuerait à une prise de conscience de la littérature grise la parution souvent retardée des bibliographies rendrait une mise à jour aisée des documents il ne serait pas contraire au caractère de rapidité de la littérature grise de lui assurer un contrôle bibliographique en risque de rendre toute une partie de la littérature grise moins périssable plus contraignante qu'elle ne l'est avec même résultat une perte importante d'information

Les autres considèrent que la création d'un contrôle bibliographique de la littérature grise aggrave la situation actuelle favoriser la parution de bibliographies de la littérature grise au niveau national et international c'est répondre aux urgences des auteurs et des producteurs et à promouvoir et à fournir leurs documents aux centres de collecte

C'est dire que l'établissement d'un contrôle bibliographique ne se fera pas sans difficultés la réaction des auteurs et des producteurs de littérature grise l'accès aux documents le degré le risque dans un premier temps d'être négative et ce malgré les prises de conscience des documents collectés

Au niveau de l'organisation même de ce contrôle bibliographique les incidences se feront à des degrés divers selon le niveau d'organisation des pays

Quoi qu'il en soit, toutes ces difficultés peuvent être surmontées et le contrôle bibliographique présente de réels avantages. Il permettrait la publication d'une bibliographie exclusivement de littérature grise pour éviter de surcharger et de retarder la publication des bibliographies de littérature blanche. de cette manière, la littérature grise serait mieux annoncée, consultée, échangée, etc...

Enfin, ce contrôle bibliographique aurait également l'avantage de permettre l'utilisation des techniques modernes d'information, c'est à dire l'informatique et d'envisager la création de bases de données, soit à un niveau national, soit, dans un cadre plus large, au niveau européen.

Encore une fois, le rôle des services de documentation peut être important dans la réalisation de tous ces objectifs.

Après avoir brossé un tableau général des problèmes posés par la littérature grise et de l'intérêt qu'elle suscite auprès des utilisateurs, je reviendrai maintenant au séminaire qui s'est tenu à York en décembre 1978 et dont le prolongement a été le développement du système SIGLE, devenu opérationnel depuis janvier 1981.

SYSTEM FOR INFORMATION ON GREY LITERATURE IN EUROPE   SIGLE

Dans le but de résoudre le problème de l'accès aux documents non publiés dans les domaines de la recherche scientifique, de la technologie, des sciences sociales et des sciences économiques, un groupe de centres européens de documentation a décidé, en 1981, de développer avec l'aide de la Commission des Communautés Européennes (DG XIII) un système coopératif d'information pour l'identification et la fourniture de documents appartenant à la littérature grise ou littérature non conventionnelle.

Les pays suivants participent au projet SIGLE en tant qu'autorités nationales : la République f.A.llemagne, la France, la Grande Bretagne, l'Irlande, la Belgique, l'Italie, le Luxembourg, les Pays Bas sont venus s'y ajouter, en tant qu'institutions associées : la Suède, les Communautés Européennes.

Ce sont les problèmes considérables posés par l'identification, l'acquisition et le contrôle bibliographique de cette littérature qui ont conduit ces centres d'informations à créer le système SIGLE (System for Information on Grey Literature in Europe).

Afin de résoudre tous ces problèmes et d'assurer une parfaite compatibilité entre les enregistrements provenant des différents pays, le groupe SIGLE a développé les outils indispensables pour atteindre cet objectif. Ces outils se présentent sous la forme d'un bordereau et de 4 brochures.

- bordereau d'enregistrement normalisé

- règles de catalogage

- liste des catégories matières

- format des bandes magnétiques

- lignes directrices pour la normalisation des vedettes des collectivités

Bordereau d'enregistrement normalisé

Le bordereau ne comprend pas de zone pour l'indexation ni le résumé. En effet, une remarque préliminaire s'impose : le groupe SIGLE a voulu développer une sorte de catalogue plutôt qu'une base de données traditionnelle, son but premier n'étant pas de faire de la recherche rétrospective, mais bien de faire connaître l'existence d'un document et surtout où on peut se le procurer.

Il n'est cependant pas exclu que dans un avenir plus ou moins proche, cette base de données évolue vers une base de données traditionnelle permettant toutes les recherches possibles.

Règles de catalogage

Le choix s'est porté sur des règles simples afin de ne pas alourdir la tâche des centres de collecte d'une part, et parce que d'autre part, la littérature grise est pauvre en données bibliographiques.

Les données indispensables pour permettre l'identification et l'accession à l'document sont :

- titre en langue originale (traduction anglaise)
- auteur
- date de publication
- citation
- rapport/côté, adresse source
- code catégorie sujet

En général, le catalogage ne pose pas de problème.

Liste des catégories matières

SIGLE a adopté comme point de départ la classification du COSATI (Committee on Scientific and Technical Information) car elle était déjà d'application dans certains centres, cependant cette classification, élaborée en 1964, ne correspond plus tout à fait aux exigences et besoins actuels, c'est pourquoi une mise à jour a été effectuée par le comité technique SIGLE, soit en modifiant, soit en ajoutant des catégories et sous-catégories.

4. Format standardisé des bandes magnétiques

Le Centre Technique de Traitement qui doit amalgamer les saisies effectuées par les différents pays a développé des logiciels permettant de traiter ces données et de produire une bande magnétique cumulative des entrées selon un format commun; pour ce faire, il était indispensable d'établir des règles de format de bandes magnétiques.

5. Normalisation des vedettes des collectivités

Les règles de rédaction de la vedette des collectivités ont pour but de lui donner une forme normalisée et de faciliter ainsi son identification et sa recherche, en particulier, au moyen d'un ordinateur; de plus la codification permet d'éviter des erreurs et donne plus de rigueur à ce problème combien difficile des collectivités auteurs.

* #### Tâches des autorités nationales

Chaque pays membre institue une autorité nationale responsable qui s'engage à accomplir, au niveau national, les tâches suivantes :

- Elle collecte la littérature grise nationale.
- Elle exploite ces documents en préparant les données bibliographiques, les codes par sujets, conformément aux règles de catalogage et de codification arrêtées par le comité SIGLE.
- Elle transmet ces informations au centre technique de traitement sous forme de bande magnétique.
- Elle fournit les documents "gris" produits sur le territoire national.
- Elle forme, dans la mesure du possible, les producteurs de littérature grise à améliorer la présentation des documents et à mentionner les éléments bibliographiques indispensables.

Pour réaliser les tâches qui lui incombent, l'autorité nationale s'organise sur le plan national, en utilisant, autant que possible, le réseau et les structures existants et, en tout cas, en tirant parti des particularités qui sont propres à l'organisation de l'information dans son propre pays.

* #### Le Centre Technique de Traitement (C.T.T.)

Le C.T.T. a la responsabilité générale du fonctionnement technique du système. Il est chargé des tâches suivantes :

- préparer et distribuer les règles de catalogage et de codification approuvées par le Comité SIGLE.
- vérifier et traiter les entrées nationales en vue de préparer la bande magnétique "mère"
- fournir la copie de cette bande magnétique à chaque partenaire, ainsi qu'aux serveurs.

* #### Exploitation des données

Actuellement, plus de 80.000 documents sont répertoriés dans la base de données SIGLE et son accroissement, en augmentation constante, est de l'ordre de 30.000 références par an.

La base de données SIGLE est disponible pour la recherche documentaire en ligne par l'intermédiaire du réseau EURONET DIANE sur les Serveurs BLAISE-LINE au Royaume-Uni et INKA en République Fédérale d'Allemagne

8. EAGLE

Dans le but de poursuivre l'action de développement du système SIGLE soutenue par la commission pendant une période de 4 ans, une association européenne de droit luxembourgeois : EAGLE (European Association for Grey Literature Exploitation), regroupant d'importants centres d'information et de documentation allemands, anglais, belges, français, italien, luxembourgeois et néerlandais vient d'être fondue.

Cette nouvelle association, qui ne bénéficie plus de subsides communautaires, et qui, par conséquent, doit entièrement s'assumer financièrement, a pour but essentiel, de promouvoir l'exploitation de la littérature grise européenne ainsi que de continuer et d'améliorer les services aux utilisateurs européens par l'intermédiaire de la base de données SIGLE.

9. TRAITEMENT DE LA LITTERATURE GRISE EN BELGIQUE

Après avoir développé rapidement ce qu'est SIGLE et comment ce système fonctionne, il me paraît intéressant de vous décrire comment les autorités nationales belges (Laborelec - Université Catholique de Louvain (U.C.L)) ont résolu, pratiquement, les problèmes de collecte et de saisie de l'information.

Collecte

Le gros problème qui se pose est de recenser les producteurs potentiels et de les motiver à participer à la collecte de la littérature grise; le travail a été réparti : l'U.C.L. prospecte les universités, Laborelec le secteur privé et les laboratoires de recherche. Actuellement un petit noyau assure régulièrement la collecte; il reste à espérer qu'il s'étende de façon à obtenir une collecte exhaustive représentant le plus fidèlement possible l'importance, la variété et la qualité de la littérature grise belge.

Saisie de l'information

Il faut distinguer deux étapes : ce qui se fait actuellement et ce que nous espérons réaliser dans un proche avenir

Actuellement

Les bordereaux de saisie sont centralisés au Service Documentation de Laborelec; ils sont ensuite encodés sur disquette à l'aide d'un PC (Personal Computer) et cela en utilisant un logiciel interactif de saisie et de formatage développé par Laborelec.

Ce logiciel a entr'autre été étudié pour qu'un document, introduit une seule fois dans le système, puisse être utilisé dans différentes bases de données, qui forcément ont des formats de saisie différents. Cela fait gagner du temps et permet, à un document "SIGLE" d'être signalé dans une base de données spécialisées permettant de faire de la recherche rétrospective, en même temps et en une seule opération.

Le contenu de la disquette est transféré ensuite sur l'ordinateur central de Laborelec, via un modem et une liaison par câble; l'ordinateur central produit alors une bande magnétique destinée au Centre de Traitement Technique de SIGLE.

L'avenir

Cette organisation devrait être assouplie et devrait permettre une analyse plus aisée et rapide des documents; la solution idéale semble être une décentralisation de la saisie; chaque partenaire devrait disposer d'un équipement PC, du logiciel de saisie et de formatage interactif, et produire ainsi sa propre disquette.

Les différentes disquettes seraient alors centralisées au Service de Documentation de Laborelec pour production de la bande magnétique représentant la saisie nationale.

Un dernier stade devrait être franchi plus tard; on peut, en effet, imaginer d'utiliser le réseau commuté pour effectuer un transfert direct des informations contenues dans les disquettes des partenaires, vers le centre de calcul de Laborelec, pour la création de la bande magnétique nationale cumulée

Il est cependant important de signaler que, si l'organisation technique du travail et le développement des outils informatiques restent les parties les plus aisées à réaliser (le problème du coût n'intervenant pratiquement plus au niveau des PC), il n'en reste pas moins vrai que les réels problèmes à résoudre sont ceux de la participation, de la collaboration des producteurs de littérature grise et ceux là ne sont pas si faciles à résoudre; ils demandent beaucoup de patience, de psychologie et de temps !

10. CONCLUSION

En conclusion et au vu des expériences que j'ai vécues et que je vis encore en participant aux projets consacrés à la littérature grise, ma conviction est renforcée que nous nous trouvons devant un créneau de la littérature scientifique et technique aussi bien que sociale et économique, très important, où la littérature est abondante, de grande valeur et où malheureusement elle est peu connue parce qu'elle circule selon de vieilles habitudes, dans des cercles restreints d'initiés auxquels d'ailleurs elle n'apporte plus grand chose tant les connaissances y deviennent vite communes, par contre, cette littérature, bien exploitée, mise à disposition de tout le monde peut apporter énormément aux utilisateurs potentiels ne faisant pas partie de ces sortes de clubs privés '

Pour cela, il faudra résoudre des problèmes de prise nouvelle de conscience de l'existence de cette littérature et de son utilité; il faudra résoudre des problèmes d'organisation. liés inévitablement à des problèmes psychologiques, qui, nous le savons tous, sont parfois des barrières difficiles à franchir

Cependant, il suffit de regarder SIGLE, devenu maintenant EAGLE, pour comprendre qu'avec des gens motivés, on peut résoudre ces problèmes et apporter sur le marché de la documentation un produit nouveau et très important

C'est sur cette note positive que je concluerai, en souhaitant que SIGLE puisse, sinon rassembler autour de lui toutes les bonnes volontés, au moins servir de modèle ou de conseil à tous ceux qui voudront un jour, faire que la littérature grise de leurs pays soit un instrument d'information documentaire comme n'importe quel autre

TELLING THE USER WHAT IS AVAILABLE – ANNOUNCEMENT AND SEARCH

by

C.D.Adams
Head of Publications
Defence Research Information Centre
Ministry of Defence (Procurement Executive)
Kentigern House
65 Brown Street
Glasgow G2 8EX
United Kingdom

SUMMARY

This paper will describe the various means by which an information service can make users aware of the documents which are available. Regular announcement of document holdings can be made using abstracts bulletins listing all recent acquisitions. Their usefulness is enhanced by subdivision into subject areas, the provision of printed indexes by subject, author etc. and the production of cumulated indexes. Another form of regular announcement, providing more specific information, is the production of listings of reports in specific subject areas (selective dissemination of information) of interest to individuals or groups. The production of both types of announcement will be discussed.

In addition to regular announcements of reports held, it is necessary to carry out searches of the document holdings in response to specific enquiries. This can be done manually, for example using the indexes to abstracts bulletins or index cards using a semi-manual system such as optical coincidence cards, or by using a computer based system. The advantages and disadvantages of these approaches, and the circumstances under which each is appropriate will be discussed. The complementary use of commercial abstracting services and on line databases will also be considered.

The resources held by an information centre will only be of any value if the end user is made aware of their existence. Although scientists and technologists become aware of documents through professional contacts and other informal means, it is essential for an information centre systematically to notify the user community of its holdings and other useful documents. In the case of defence-controlled reports, there is often no other readily available source of this information.

Previous papers have described the acquisition, abstracting and indexing of documents. The various types of current awareness and search service will be described, and illustrated by reference to the Defence Research Information Centre (DRIC) which provides these services to the UK defence community.

ABSTRACTS BULLETINS

Once reports or other documents have been abstracted and indexed, the most straightforward method of announcement is in the form of a regular bulletin giving details of the most recent acquisitions. The Defence Research Information Centre produces a monthly bulletin, Defence Research Abstracts (Figure 1). A simple listing of the reports cited would be rather indigestible, especially given the wide subject coverage, so the bulletin is divided into subject areas. In the case of Defence Research Abstracts, the COSATI System is used. This provides 22 subject areas, each of which is subdivided giving a total of approximately 220 fields. These COSATI fields are allocated at the indexing stage, and cross references between fields add further flexibility.

The provision of printed indexes further enhances the usefulness of the abstracts bulletins. The monthly Defence Research Abstracts bulletin contains a subject index (Figure 2) generated from the controlled vocabulary keywords (descriptors), and each abstract is also indexed by author (originator's report number) and DRIC accession number. Another useful addition is a cumulated annual index. The annual indexes for Defence Research Abstracts also include indexing by title, corporate author etc, which is not practicable for the monthly bulletin indexes.

The generation of these various indexes and the cumulation of the monthly information is made easier by the use of a computer. This also simplifies the formatting of the bulletin itself. A variety of commercial software packages is available for this purpose, often combined with information retrieval. It is of course possible to produce an abstracts bulletin manually, but the process is extremely laborious.

The production of the bulletin itself is, in theory at least, a relatively straightforward process (Figure 3). The procedure at DRIC involves the use of a GEC 4080 mini computer, although the outline would be similar for other systems. After

abstracting and indexing of the individual documents, there is a manual editorial and checking stage. The citations are then typed into a machine-readable form, and validation checks are carried out by the computer to ensure, for example, that valid keywords have been used, and that bibliographic details are in the correct format. This is followed by proof reading and a final edit. Each of these checking stages must be particularly thorough because of security implications of some of the information present. The document citations are then stored on the computer system until the monthly increment is extracted to produce a bulletin, and the indexes are generated. The master copy is then printed using a high-quality printer, although computer type-setting would be another option. The bulletins are then printed using offset lithography. The manual production of a bulletin would involve pasting up the typed bulletins on to pages and then printing. Finally, the printed bulletins are distributed to authorised recipients throughout the defence community.

SELECTIVE DISSEMINATION OF INFORMATION

A more specific form of current awareness is Selective Dissemination of Information (SDI). Rather than covering the entire range of the most recently acquired documents, SDI provides details of recent acquisitions in particular subject areas. Two possible approaches to an SDI service are (i) Personal Profiles, where the subject area is of interest to a specific individual user, and (ii) Standard Profiles, where the subjects are more broadly defined, and are of interest to a group of users.

The approach chosen depends on the nature of the user community, and the resources available to the information service. If the audience is small, there is no requirement for a Standard Profile service, conversely, with a large audience and limited resources, it may not be possible to provide Personal Profiles tailored to the exact needs of individual users. However in such a case it is likely that one or more of the broader subject areas would be of use. The Defence Research Information Centre produces a series of 47 Standard Profiles on a wide range of subjects, which are distributed to users throughout the UK Ministry of Defence. Figure 4 shows the topics covered.

Both types of SDI constitute a regular search a computerised bibliographic database, which consists of the abstracts bulletin in machine-readable form, and the production of Personal and Standard Profiles is broadly similar. The first stage is the construction of the profile for each subject. The subject area of a Personal Profile is defined by the user in general terms, which is then passed to an information scientist who will prepare the search structure in logical terms. This task clearly requires detailed knowledge and experience of the indexing used on the database. A certain amount of trial and error will be necessary and feedback from the user when presented with the finished profile. This feedback will continue so that the Profile may be modified if necessary.

The construction of a Standard Profile is similar in principle, but requires more care. The selection of the subject areas will be in response to user demand, so some market research and analysis of previous requests for information will be necessary. The logical structure covering a more broadly based subject requires careful thought, to retrieve all relevant citations and exclude the majority of irrelevant items. The type of indexing used may make this difficult.

In general, the preparation of profile structures requires ingenuity, intelligence, and a certain amount of imagination. It is essential the user has defined the subject area exactly as required, otherwise their unfamiliarity with the processes used to create the finished SDI may lead to disappointment when the results are received. Feedback from the user and careful monitoring of the finished product are very important, especially in the early stages. A typical DRIC Standard Profile is shown in Figure 5.

Once the Profile has been successfully constructed, it remains only to implement the search on a regular basis. In the case of DRIC Standard Profiles this is done monthly using a machine-readable form of the Defence Research Abstracts increment. If a Personal Profile is produced it is only necessary to print the results and send the printout to the user. For Standard Profiles with multiple recipients it is necessary to reproduce the results, for example by offset lithography, and distribute the finished Profiles.

The production of an SDI service as described above is dependent on a computerised information retrieval system. It is also possible to produce more specific forms of manual current awareness service, such as selective distribution of periodicals or personal notification to users of items of interest. The latter is only really feasible if there is a small number of users.

NO ABC TOPIC.

In addition to providing current awareness services on a regular basis, it is necessary to retrieve information in response to specific requests. This necessitates searching the records of the information centre's holdings, and then provide details of documents relevant to the enquiry. The enquiry may refer to the work of a specific author or organisation, for example, but generally the search will be on a particular subject area, and it is subject searches which will be described. Whatever method is used, the general principle is to use indexes to retrieve items on particular subjects, and to manipulate these sets of items retrieved to correspond to the subject of the original enquiry. Search systems fall into three categories, depending on how the holdings are indexed: manual, semi-manual and computer-based or on-line systems. These will be described and compared

MANUAL SEARCHING

In some ways, this is the simplest form of searching. One method is the use of printed abstracts bulletins, using the printed indexes, or by scanning the relevant sections of the bulletins to find documents which correspond to the information requested. This can be a very time-consuming process. Documents may also have been catalogued using a card index. These cards may contain an abstract of the report in such as the widely used Universal Decimal Classification (UDC). The UDC system is very useful for classifying books, but is unwieldy for handling reports and similar literature.

SEMI-MANUAL SEARCHING

One widely used semi-manual search method is the use of optical coincidence cards, also known as punched feature cards or peekaboo cards. Each of these cards represents a descriptor, which is marked at the top of the card. The card is divided into a grid of numbered positions, each of which represents a particular document number. When the document is indexed, all the cards corresponding to the subject categories allocated to it are punched or drilled in the position which represents the identifying number of the document. There is a 2-part index, comprising the file of descriptor cards in alphabetical order, and the document number file, which is in running number order with bibliographic details of the documents.

To conduct a subject search using this system, the cards corresponding to the relevant descriptors are extracted from the file. The cards are then superimposed over a light box or held up to a light source, so that it is possible to see which holes are aligned, hence 'optical coincidence'. The numbers corresponding to these holes, and thus common to all the cards, identify the documents relevant to the subject enquiry. The document number file will then provide details of the documents retrieved.

ON-LINE SEARCHING

The on-line database consists of bibliographic records held on-line on a rapid access computer file such as a magnetic disc file. The procedure for a retrospective search of the database is similar to that for producing an SDI Profile, except that the search is in response to a specific enquiry, covers a larger proportion of the data base, and is conducted in on-line interactive mode rather than batch mode.

It is again necessary to define the enquiry carefully, in consultation with the enquirer. The subject must be specified unambiguously, and any limits to the type or number of references defined. Having done so, the subject is analysed logically by an information scientist and the search terms to be used are listed. Allowance must be made for synonyms, variations in spelling etc.

Once the terms to be used have been decided upon, the initial search strategy can be defined. Each term will retrieve a set of references, and these sets can be combined using Boolean logical operators such as AND, OR and NOT. Any limits on the search, as described above, can be introduced.

The search is carried out interactively at a terminal using appropriate system commands. Having used the initial strategy, the search can then be refined in the light of the references retrieved. It is usually possible to display references on the terminal, which can suggest alternative search terms. For example. Once a suitable set of document references has been retrieved, it is usual to print them off line on a high speed line printer. The printout can then be sent to the enquirer, who will naturally be delighted. It is also useful to keep a copy of the search strategy and output for future reference, especially if a complex strategy has been used, or if updates will be required. It is often possible to save the search strategy on disc for future use.

WHICH SEARCH METHOD IS BEST?

The relative advantages and disadvantages of the different information retrieval methods depend on the nature of the document collection, the demands made on the service, and the resources available in terms of staff and funding.

In the case of small numbers of documents, a manual or semi-manual system can be perfectly adequate. If resources are limited, systems such as optical coincidence cards are an advance over manual systems in terms of speed and flexibility, and can readily handle a collection of 10,000 documents or more. If the limitations are accepted, these systems are relatively simple to use.

If the necessary resources are available, and the size of the document collection merits their use, on-line search systems are very powerful. However, if the introduction of an on-line system necessitates automation of an existing manual system, this can be a very expensive task. There will also be an initial (and on-going) training requirement, although modern on-line search software is increasingly user friendly. There are a number of commercially available information retrieval software packages, which often incorporate a library system for document control. Some of these packages have versions suitable for microcomputers. If an on-line system is considered worthwhile, manual or semi-manual systems may be useful for special collections.

COMMERCIAL SERVICES

A useful adjunct to in-house information services is provided by commercially based abstracting services and on-line databases such as Chemical Abstracts, Physics Abstracts etc. Although these cover only openly published literature, in many subjects the bulk of research and development falls into this category. Commercially produced abstracts bulletins are relatively expensive, and it may be necessary to centralise their purchase at an information centre. Several hundred of these abstracts bulletins are available as on-line databases via one or more hosts such as Dialog or ESA-IRS. Access to these hosts is relatively simple, requiring a modem, a terminal and the necessary funds to pay the bill. The advantage of centralising access to such services is not only financial, as the staff of an information centre will have much greater expertise in searching techniques, and be familiar with new developments by the data base producers and hosts. The documents can then be obtained via the host, or from a national centre; for example in the UK, the British Library Document Supply Centre is used. Figure 6 shows some of the services and databases used by DRIC.

This has been of necessity a brief review of a broad subject, the details of which depend largely on the systems used. However, I hope it has been possible to illustrate the services which can be provided by an information centre in this area.

UNCLASSIFIED

PROCUREMENT EXECUTIVE MINISTRY OF DEFENCE

DEFENCE
RESEARCH
ABSTRACTS

BRITISH UNCLASSIFIED
REPORTS EDITION
VOLUME 15   NO 8
AUGUST 1986

DEFENCE
RESEARCH
INFORMATION
CENTRE
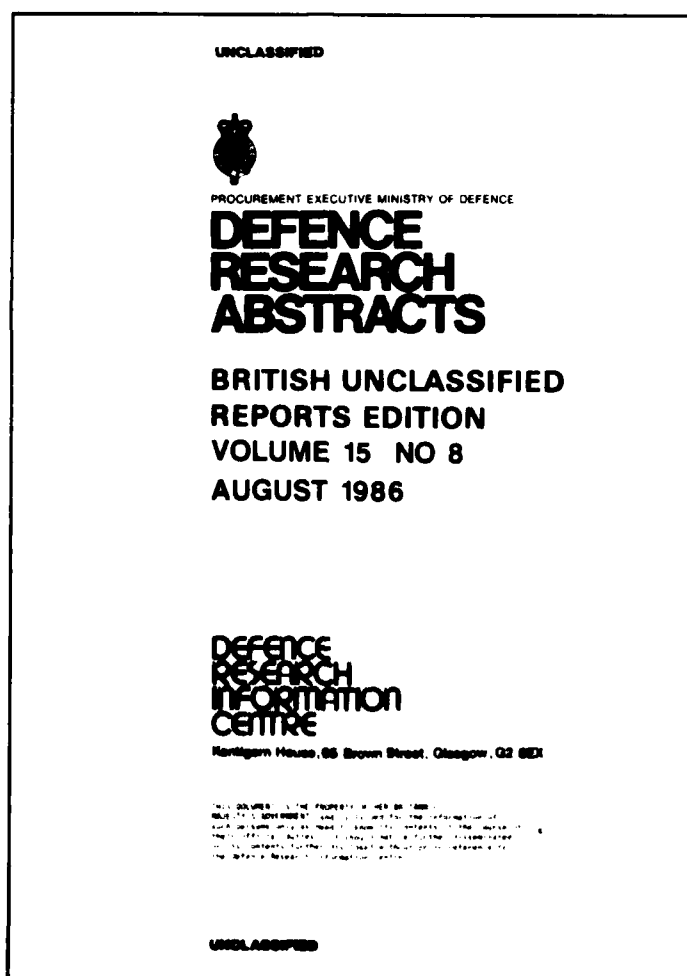
Figure 1   DRIC's Monthly Bulletin, DRA

SUBJECT INDEX

Figure 2   An extract from the Subject Index to DRA

PART 1 DAILY INPUT
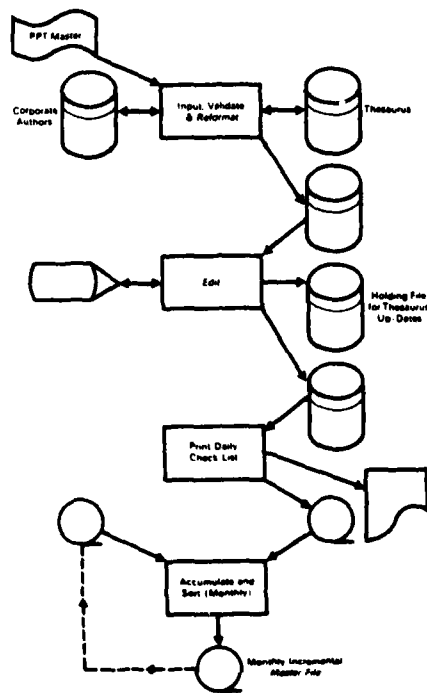
PART 2 BULLETIN AND INDEX PRODUCTION
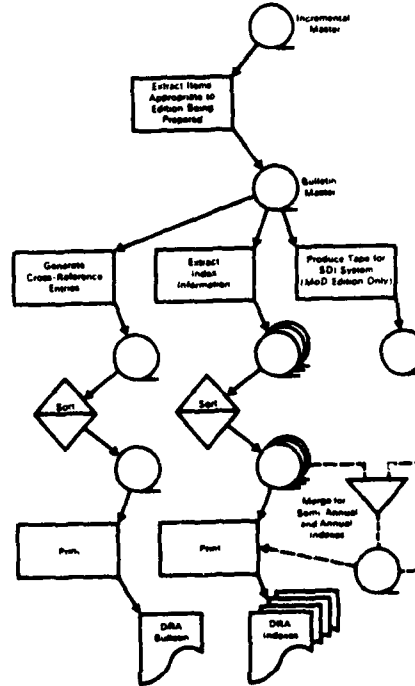
Figure 3 Production of DRA

1. Electronics Reliability	25. Computers, Programs and Applications
2. Nuclear Radiation Hardening	26. Operations Research
3. Semiconductor Devices	27. Corrosion and Corrosion Protection
4. Fibre-Reinforced Composites	28. Cost Control
5. Metal Fatigue	29. Ground-Based Artillery Weapons
6. Acoustic Propagation in the Sea	30. Military Vehicles - Design and Operation
7. Detonation Theory and Detonators/ Initiators	31. Aeroelasticity, Flutter and Vibration
8. Adhesives and Adhesion	32. Missile Warheads and Fuzes
9. Personal Protection	33. Metallurgy and Metallurgical Processes
10. Lasers - Technology and Applications	34. Rocket Motors, Fuels and Rocket Propellants
11. Night Vision Devices, Infrared Imaging and Detectors	35. Terminal Ballistics and Non-Nuclear Explosion Effects
12. Semiconductors - Solid State Materials	36. CBR and Nuclear Warfare
13. Machinery Condition Monitoring	37. Antennas
14. Health and Safety	38. Display Devices
15. Underwater Weapons	39. Target Acquisition
16. Sonar	40. Missile Guidance
17. Explosives and Weapons Detection	41. Helicopter Flying Characteristics
18. Aircraft Noise and Sonic Booms	42. Boundary Layer Phenomena
19. Man-Machine Relations	43. Naval Mine Warfare
20. Nondestructive Testing	44. Explosives and Gun Propellants
21. Communications	45. Internal Security
22. Radar	46. RPVs, Aerial Targets and Drones
23. Electronic Warfare	47. Surface Coatings
24. Aircraft Engineering	

Figure 4 DRIC Standard Profiles

DRIC STANDARD PROFILE 19 — MAN MACHINE RELATIONS

LINE NO.	DESCRIPTION	HITS		
1	Man Machine Systems	4		
2	Environmental Engineering	2		
3	Human Factors Engineering	4		
4	Anthropometry	3		
5	Comfort	0	*The Person*	
6	Stress (Physiology)	2		
7	Fatigue (Biology)	3		
8	Psychological Effects	1		
9	Consoles	0		
10	Data Processing Terminals	3		
11	Display Devices	4		
12	Industrial Engineering	2	*The Machine*	
13	Machine Design	3		
14	Workplace Layout	2		
15	Manual Controls	0		
16	Television Display Systems	1		
17	2—8 + (i.e 2 OR 3 OR 4 ... OR 8)	8	*The Person*	*(All hits combined)*
18	9—16 + (i.e 9 OR 12 OR 13 ...OR 16)	11	*The Machine*	
Print	1+(17*18) (i.e 1 OR (17 AND 18)	9	*Final total*	

Figure 5 A Typical Standard Profile and its Output

HOSTS

DIALOG

ESA-IRS

etc

DATABASES

INSPEC

COMPENDEX

CHEMABS

METADEX

Figure ... Some of the commercial ... ...

B

BIBLIOGRAPHY

The present Bibliography was prepared by Mr F. Lapeyssen, of the Royal Library of Brussels, a member of the Technical co-ordination Party.

-3-

Carbon Dioxide Information Center FY 1985 / Progress Report
(AA)FARRELL, M. P.
Oak Ridge National Lab., Tenn. (0A7894470)
DE86-0046541 ORNL/CDIC-11 DE-AC05-84OR-21400 851100 p. 59 In: EN
(English) Avail.: NTIS HC A04/MF A01 p.2676

The Carbon Dioxide Information Center (CDIC) has eight major functions: (1) distribute DOE and CDIC publications; (2) publish a CO_2 document, CDIC communications; (3) respond to information requests; (4) develop a bibliographic information system and provide searching capabilities; (5) identify the CO_2 research community and policymakers and provide access to a computerized world directory; (6) evaluate and test computer codes and package the model; (7) compile and evaluate numeric data bases and package the data; and (8) provide networking facilities among other data centers. CDIC progress during FY 1985 in these functions is discussed.

-4-

Government acronyms and alphabetic organizational designations used in DTIC
(Defense Technical Information Center) / Report, Period Ending Oct. 1985
(AA)BROWN, L. M.
Defense Technical Information Center, Alexandria, Va. (DK469579)
AD-A161900? DTIC/TR-85/18? DTIC/TR-84/5 851100 p. 274 Supersedes
DTIC/TR-84/5 In: EN (English) Avail.: NTIS HC A12/MF A01 p.2392

This compilation is a guide to acronyms as assigned by the Defense Technical Information Center (DTIC). The listing contains entries from the Department of Defense (DoD), Federal Government and foreign military organizations. The acronyms reflect reports processed into the DTIC collection. In all instances the acronyms are those actually use by the organization itself.

-5-

Analysis of the federal cataloging system and COSATI (Committee on Scientific and Technical Information) cataloging
(AA)SCHLAG, B. A.
Defense Technical Information Center, Alexandria, Va. (DK469579)
AD-A158501 850621 p. 41 In: EN (English) Avail.: NTIS HC A03/MF A01 p. 873

This paper is a comparative analysis of the cataloging processes done by the defense logistics services center (DLSC) and the defense technical information center (DTIC). The Federal catalog system used by DLSC was developed for the cataloging of supply items and material management; the COSATI System used by DTIC is for the cataloging of technical reports and technical bibliographic data. Major differences were found between the two systems including the materials, the end user, the type of information needed, and the information usage.

-6-

Integrated bibliographic information system: Integrating resources by integrating information technologies / Final Report
(AA)COTTER, G. A.? (AB)HARTT, R. W.
Defense Technical Information Center, Alexandria, Va. (DK469579)
AD-A157700? DTIC/TR-85/8 850900 p. 10 In: EN (English) Avail.: NTIS HC A02/MF A01 p.873

-1-

Information resources management in the R and D environment
(AA)BLEER, K.
/achinformationszentrum fuer Energie, Physik, Mathematik G.m.b.H.,
(Deenstein-Leopoldshafen (West Germany). (FA742745)
In: AGARD The Value of Information as an Integral Part of Aerospace and
Defence R and D Programmes 4 p (SEE N86-28793 19-82) 860100 p. 4 In: EN
English) Avail.: NTIS HC A05/MF A01 p.3105

Efficient management of highly specialized information is a permanent task of optimization, whereby framework conditions may constantly change on account of various influencing factors. Owing to their special significance, the following have to be considered in particular: user needs, available resources, and information techniques. The task of optimization, due to its complexity, cannot be solved model-like, but only approximately and pragmatically, illustrated by the example of the Federal Republic of Germany and the Fachinformationszentrum Energie Physik Mathematik (FIZ) the attempt to find a practical solution is demonstrated. In this context it is shown which role a National Information Center plays within international and national cooperation including worksharing, and how information supply and dissemination of information works in the case of central information services by FIZ, and decentral dissemination of information in research centers. Illustrated by the examples of database production, online services of bibliographic, numeric and full-text databases and the concept of the International Information Network for Science and Technology (STN International), the importance of the use of the most modern information techniques is demonstrated.

-2-

International information exchange programmes are necessary
(AA)REEVES, A. B.
National Defence Headquarters, Ottawa (Ontario). (NH877701) Directorate of
Industry and Univ. Programs.
In: AGARD The Value of Information as an Integral Part of Aerospace and
Defence R and D Programmes 5 p (SEE N86-28793 19-82) 860100 p. 3105
(English) Avail.: NTIS HC A05/MF A01 p.3105

The economic and cultural ties between Canada, the U.S. and European nations are enhanced by various means of information exchange between and among countries. The benefits of two different but interconnected processes of technology transfer are discussed: the alerting of allies to information available and the exchange of document literature. Since concern about national security and proprietary information may preclude defence research and development programs from publishing as do other disciplines, in the open literature, special exchange agreements are necessary. The programs which have existed for some years among various NATO countries usually limit the subject areas of common interest to be discussed, and the organizations to be included. This process is illustrated using the Canadian situation. Some of the existing Canadian exch. ge agreements are examined, showing how they operate, the types of information which are included, the routes by which information is passed from one country to another. The ways in which information passes through the documentation centers to become a valuable service to the end users a.1 thus enhance research and development productivity are detailed. Specific examples of the use of international information exchange programs to some major defence projects are shown. The release of information is beneficial to the releasing country as well as to the receiving country because of the increased visibility of the information and the resulting reciprocal transfer of related data.

The Defense Technical Information Center (DTIC) is sponsoring the development of an integrated bibliographic information system. The prototype of this system, under development since April 1983, will be used to demonstrate the concept of an integrated library system combined with an intelligent gateway

capable of querying and updating — simultaneously — more than one heterogeneous bibliographic data base (catalog). Queries and updates of any data base will be performed using a common command language, relieving the system user of the need to learn each master separate language and procedures for each data base accessed. The development approach used, the information processing concepts and technologies investigated and selected for implementation in the prototype system, and the issues underpinning system implementation are described.

-7-

A system development life cycle study of the information center / R.S.
Thesis
(86)LEDGLEITHER, R. L.
Naval Postgraduate School, Monterey, Calif. (NG3A619)
AD-01369771 AD-E350074 636X00 p. 133 Ini EM (English) Avail.: NTIS HC
R87/MF MG1 p.171

End user computing has penetrated most large organizations in an uncontrolled fashion. The absence of the technology, the lack of management expertise and the inability to gain comprehensive control under the traditional organizational structure have often resulted in inefficiency, incompatibility, and missed opportunities. One solution to this situation is the Information Center (IC). ICs are centralized coordination centers for end user computing and offer end user computer expertise. ICs may be any combination of consulting services, training services, mainframe computer terminals, or microcomputers. This thesis examines the IC concept from the viewpoint of the manager faced with implementation and provides a methodology, the Systems Development Life Cycle, to evaluate and implement an IC. Each phase of the methodology is explained and some innovative ideas on IC implementation and operation are provided. Examples of past successes and mistakes are also presented.

Source hierarchy list. Volume 2: 1 through 7 / Annual Report, Jul. 1984
Jun. 1985
(86)BEITZELL, J.
Defense Technical Information Center, Alexandria, Va. (BN4657)
AD-A153,001 DTIC/TR-85/7-VOL-2 Supersedes Rept. DTIC/TR-84/6-VOL-2
AD-A143001 636X00 p. 656 Ini EM (English) Avail.: NTIS HC A99/MF A98 p.
4165

This is the second of two volumes of an alphabetical listing of corporate authors as used for announcement of reports received in the Defense Technical Information Center (DTIC). Former names of organization are included and displayed below the current source name used by DTIC. Cross reference direct the user from sub-element organization to the major source level entry where they are also displayed. Major and sub-hierarchies are presented and any row of asterisks. This list is used in conjunction with and is not a replacement for DTIC's Source Header List. Volume 1, AD-A153&01, Volume 2, and Supplement 1, AD-A153&16. It displays only those Source from the Source Header List for which hierarchical linkages are pertinent.

-9-

Source hierarchy list. Volume 1: A through H / Annual Report, Jul. 1984
Jun. 1985
(86)BEITZELL, J.
Defense Technical Information Center, Alexandria, Va. (BN4657)
AD-A153,001 DTIC/TR-85/7-VOL-1 Supersedes DTIC/TR-84/6 Vol. 1
636X00 p. 643 Ini EM (English) Avail.: NTIS HC A99/MF A98 p.4165

This is the first of two volumes of an alphabetical listing of corporate authors as used for announcement of reports received in the Defense Technical Information Center (DTIC). Former names of organization are included and displayed below the current source name used by DTIC. Cross reference direct the user for sub-element organization to the major source level entry where they are also displayed. Major and sub-hierarchies are presented. This list is used in conjunction with and is not a replacement for DTIC's Source Header List. Volume 1, AD-A153&01, Volume 2, and Supplement 1, AD-A153&16. It displays only those Source from the Source Header List for which hierarchical linkages are pertinent.

-10-

Source header list, supplement 1 / Annual Report, Apr 1984 Jun. 1985
(86)BEITZELL, J.
Defense Technical Information Center, Alexandria, Va. (BN4657)
AD-A153,001 DTIC/TR-85/3 Supersedes DTIC/TR-84/3 636X00 p. Ini EM (English) Avail.: NTIS HC A10/MF A01 p.4165

This publication is a two volume alphabetical listing of corporate author names by the Defense Technical Information Center. Use, this is a supplement to the two volume Source Header List, taken together these three volumes contain all corporate source names in the DTIC database system. Each source entry contains numeric code for computer input and an alphanumeric code which is displayed and provides linkages to data elements in the various Information System Report and Development publications including the Planning and Development database maintained by DTIC.

-11-

Post processing of bibliographic statistics and data / 1985
(86)BELLISIMO, P.
California University, Berkeley. Lawrence Berkeley Lab.
Information System.
DE86-005671 LCBL-8948-REV-11 AD-E040/601 636X00 p. Ini EM (English) In EM (English) Avail.: NTIS HC A08/MF A01 p.4165

This publication is the post processing of bibliographic data statistical data for the data elements and statistical analysis for the post processing program so that the post processing program could be used.

-12-

Automation of information services furnished by documentation centers and specialized libraries
AUTOMAZIONE DEI SERVIZI DI INFORMAZIONE FORNITA DA CENTRI DI DOCUMENTAZIONE E DA BIBLIOTECHE SPECIALI
(RA)NOBA, C.
Fondazione Ugo Bordoni, Roma (Italy).   (F2G57A3J
PUB-E-1364 840000 p. 12 refs 0 In: IT (Italian) Avail.: NTIS HC R03/MF
A01 p.1468

The structure and organization of information centers is discussed. The analysis includes bibliographic information research, information retrieval, physical documents recovery, technical support management and bibliographic data bases.

-13-

The establishment and experience of the Carbon Dioxide Information Center (CDIC) / Progress Report, Jan. 1982 - Sep. 1983
(RA)HOBRUEMITZ, B., F.1 (RB)WATTE, H. A.
J.1 (RE)JACOBS, B. F.1 (RF)RUDERER, H. A.
Oak Ridge National Lab., Tenn.   (0A789478) Engineering Physics and
Mathematics Div. ORNL/TM-9358   DE-RD05-84OR-21400 840000 p. 80 In: EN
DE85-001904I Avail.: NTIS HC R05/MF A01 p.1468
(English)

The Carbon Dioxide Research Division (CDRD) of the Department of Energy's (DOE) Office of Basic Energy Sciences established a Carbon dioxide Information Center (CDIC) at the Oak Ridge National Laboratory (ORNL) in January 1982 to support the nation's Carbon dioxide-climate research effort by providing a focal point for the compilation and distribution of CO2-related information under systematic quality control. This informal report documents the establishment and experience of the center during the period January 1, 1982 to September 30, 1983. Progress on the activities and accomplishments by the center are discussed using specific examples to illustrate the concept and development of a specialized information analysis center.

-14-

DDN directory
(RA)STAHL, M. K.1 (RB)SHERWOOD, B.1 (RC)FISCHER, N.1 (RD)ROMANO, S.
(RA)ed.1 (RB)ed.1 (RC)ed.1 (RD)ed.
SRI International Corp., Menlo Park, Calif.   (SY42385E) Network Information
Center.
AD-A148213   DCA200-83-C-0025 840600 p. 692 In: EN (English) Avail.: NTIS
HC A99/MF A01 p.1230

An introductory section outlines services and documents available from the DDN Network Information Center, information about user registration, TAC

This report documents the corporate level long-range plan for the Defense Technical Information Center (DTIC). The plan describes the societal and DoD environments within which DTIC will most likely operate over the next 15-20 years. It relates these future environments to meaningful long-range goals for DTIC. The particular areas highlighted in the plan are Products and Services; Personnel and Finance and Budget.

-18-

(AA)BURRELL, J. P.
Source header list, supplement 2 / Annual Report, Jun. 1983 - May 1984
Defense Technical Information Center, Alexandria, Va. (DA469579)
AD-A143500I DTIC/TR-84/8-SUPPL-2 840700 p. 342 In: EN (English) Avail.:
NTIS HC A15/MF A01 p.3833

This publication is a one volume, alphabetically arranged, compilation of corporate author names used by the Defense Technical Information Center since April 1982. It is a supplement to the two volume Source Header List (AD-A115 806, AD-A115 801). Taken together these three volumes contain all corporate source names in the DTIC database system. Each source name is assigned a 6-digit numeric code for computer input and retrieval purposes plus a 4-digit alphanumeric geopolitical code and an alphanumeric type code. Source names displayed are included as data elements in the Technical Report, Work Unit Information System, Research and Development Program Planning, and Independent Research and Development databases maintained by DTIC.

-19-

(AA)DURRAN, D. M.
Strategies for converting to a DBMS environment
National Aeronautics and Space Administration. Ames Research Center, Moffett Field, Calif. (NCA73557)
In NASA, Washington NASA Admin. Data Base Management Systems, 1984 p 1-10
(SEE N84-33266 22-82) 840900 p. 9 In: EN (English) Avail.: NTIS HC A07/MF A01 p.3571

The conversion to data base management systems processing techniques consists of three different strategies - one for each of the major stages in the development process. Each strategy was chosen for its approach in bringing about a smooth evolutionary type transition from one mode of operation to the next. The initial strategy of the indoctrination stage consisted of: (1) providing maximum access to current administrative data as soon as possible; (2) select and developing small prototype systems; (3) establishing a user information center as a central focal point for user training and assistance; and (4) developing a training program for programmers, management and ad hoc users in DBMS application and utilization. Security, the rate of the data dictionary, and data base tuning and capacity planning, and the development of a change of attitude in an automated office are issues meriting consideration.

-20-

Department of Energy's activities to limit distribution of certain unclassified scientific and technical information
General Accounting Office, Washington, D. C. (GB068442) Resources Community and Economic Development Div.
P884-1891561 B82121841 GAO/RCED-84-129 840330 p. 28 In: EN (English)
Avail.: NTIS HC A03/MF A01 p.3520

The Department of Energy is a major publisher of unclassified scientific and technical information. The Technical Information Center, the Department's repository, sends most of its unclassified information to the National

Technical Information Service, which sells it to the public. However, some of the information is limited to distribution within the federal government because it involves nuclear safety matters; securing foreign research results or protecting patentable, proprietary, and other information. This report describes the Department's procedures and controls for determining, distributing, and accessing unclassified information that is not made available to the public.

-22-

(AA)HARTMANN, B. K.
The Optical Coincidence Information Retrieval System (OCIR)
Max-Planck-Inst. fuer Aeronomie, Katlenburg-Lindau (West Germany). (RL79P366)
MPAE-L-66-84-18 840000 p. 14 refs 0 Presented at Intern. Cooperation (ICC) Intern., Zurich, Apr. 1984 In: EN (English) Avail.: NTIS HC A02/MF A01 p.3316

The Optical Coincidence Information Retrieval System (OCIR), based on an inverted thesaurus (going from specific to general terms in an unhierarchical manner) is described. The hardware in its first stage is based upon a (mechanical) Optical Coincidence Card System which can be implemented in any nonindustrialized country. In its second stage it is supplemented on a personal computer. In a third stage it can be supplemented by large computers having free text search capabilities. The OCIR concept allows the generation of many fairly small decentralized and autonomous information systems which might be linked through or into an information center.

-23-

(AA)MARTENS, G. B.
Defense technical information center cataloging guidelines
Defense Technical Information Center, Alexandria, Va. (DA469579)
AD-A138500I DTIC/TR-84/11 DTIC/TR-80/1 840100 p. 96 Supersedes
DTIC/TR-80/1 In: EN (English) Avail.: NTIS HC A05/MF A01 p.1919

The guidelines for descriptive cataloging is a procedure manual published by the Defense Technical Information Center. It outlines the cataloging information to be included in the data fields for computer input of technical documents. The text is arranged numerically, by field number, and includes Appendices A through I. Changes to the security classification fields have been added to implement DoD 5200.1-R, Information Security Program Regulation. The rules and procedures in these guidelines are an adaptation of Guidelines for Descriptive Cataloging of Government Scientific and Technical Reports, published March 1978, as AD-A050 900.

-24-

The Application of New Technologies to Improve the Delivery of Aerospace and Defence Information
Advisory Group for Aerospace Research and Development, Neuilly-Sur-Seine (France). (AD455456)
AGARD-CP-357I ISBN-92-835-0345-71 AD-A140161 Loughton, England 831200 p. 118 refs 0 Meeting held in Ottawa, 14-15 Sep.1983 In: EN (English) Avail.:
NTIS HC A06/MF A01 p.1750

The pace of development of new technologies in communication networks and information delivery systems was extremely rapid over recent years. These developments and the ways in which they are applied to increase the

effectiveness of managers, engineers and scientists are reviewed. Attention was directed particularly to the interconnecting of data bases and information centers within communication systems that permit the retrieval and post processing by end-users. Ways and means by which intelligent terminals, micro and mini computers are used in the actual aggregation and post-processing of data information were examined. Example of how the new technologies increase the productivity of scientists and engineers to improve the decision making capabilities of program managers were provided. For individual titles, see N84-21425 through N84-21435.

-25-

User's manual for the DOE Technical Information Center Integrated Record Input System (IRIS)

(AA)LAWRENCE, J. D.; (AB)HOWARD, T.
California Univ., Berkeley. Lawrence Berkeley Lab. (CC787618)
DE83-013074/ DOE/TIC-11616/ LBL-15731 BE-AD83-765F-0000 830000 p. 83 In: EN (English) Avail.: NTIS HC A05/MF A01 p.1405

The use of the Integrated Record Input System (IRIS) which is developed fo the DOE Technical Information Center is outlined. The interaction with the various programs in the DOE/TIC integrated record input system (IRIS) examined.

Specifics of using each program are discussed.

-26-

Development and Use of Numerical and Factual Data Bases
Advisory Group for Aerospace Research and Development, Neuilly-sur-Seine (France). (AD455456)
AGARD-LS-130/ ISBN-92-835-1459-91 AD-A136559 Loughton 831000 p. 123 refs. 9 Lectures held in Baltharsburg, Md. 5-6 Oct. 1983, in London, 10-11 Oct. 1983, and in Lisbon, 13-14 Oct. 1983 In: EN (English) Avail.: NTIS HC A05/MF A01 p.1405

Numerical and factual data, as sources of information for all levels of aerospace and defence R & D management and staff activity, are increasingly important. These data are necessary to support research and engineering efforts in all fields. They are also increasingly important to support or assist in the decision-making process. Today, a number of numerical data bases are available through national information centers and others are available from academic or commercial information sources. Data in many of these data bases are retrieved and manipulated in display systems currently available. There is, however, a great need to improve the quality, reliability, availability, accessibility, and dissemination of these data. The scope of the lecture series includes: generation of numerical data, consideration of the quality and reliability of the data, methods for publishing and disseminating the data, a review of the data bases that are currently available, how these data bases are used, and future needs for numerical data bases. For individual titles, see N84-17860 through N84-17869.

-27-

Source header list, supplement 1 / Report, period ending 14 Jun. 1983
(AA)BURRELL, J. P.
Defense Technical Information Center, Alexandria, Va. (DN465579)
AD-A136561 DTIC/TR/83/3-SUPPL-1 830700 p. 227 In: EN (English) Avail.: NTIS HC011/MFA01 p.459

This publication is a one volume, alphabetically arranged, compilation of corporate author names used by the Defense Technical Information Center since April 1982. It is a supplement to the two volume Source Header List (AD-A115 805, AD-A115 801). Taken together these three volumes contain all corporate source names in the DTIC data base system. Each source name is assigned a 5-digit numeric code for computer input and retrieval purposes plus a 4-digit alphanumeric geopolitical code and an alphanumeric type code. Source names displayed are included as data elements in the Technical Report, Work Unit Information System, Research and Development Program Planning, and Independent Research and Development data bases maintained by DTIC.

-28-

Operation of the power information center: Performance of secretariat functions and information exchange activities in the advanced power field of the interagency advanced power group / Annual Report, 15 Sep. 1982 - 14 Sep. 1983

Franklin Research Center, Philadelphia, Pa. (F38771B7) System Technology Dept.
NASA-CR-174579/ N65 1.26:174579/ AR-5 830915 p. 27 In: EN (English)
Avail.: NTIS HC A03/MF A01 p.302

Highlights of activities conducted during the reporting period to facilitate the exchange of technical information among scientists and engineers both within the federal government and within industry are cited. Interagency Advanced Power Group meetings and special efforts, project briefs, and organization development are considered.

-29-

Downloading and post-processing of bibliographic information with the TIS (Technology Information System) intelligent gateway computer
(AA)HARRISON, L. JR.; (AB)HORBEL, V. E.; (REIN)GRMIK, R. A.
California Univ., Livermore. Lawrence Livermore Lab. (CDB65346)
AD-A136601 UCRL-89119 830000 p. 10 refs. • In: EN (English) Avail.: NTIS HC A02/MF A01 p.162

The TIS Intelligent Gateway Computer at the Lawrence Livermore National Laboratory provides authorized users automated access to other information centers, downloading of descriptive information and numerical data, and post-processing of bibliographic citations. Included is the aggregation of extracted information into topical files, the elimination of redundancy, and online review for the creation of annotated relevant sets. Post-processing of the reviewed information can be carried out by annotation of titles, abstracts, and descriptors with statistical codes in graphical form of their single/multi-term expressions, statistical cross-correlation of data elements, and the creation of concordances and indexes. These tools give new insight into a subject matter or the characteristics of corporate/personal publication. These self-guided procedures can be performed online from remote terminals by telephone dial-up, WATS-lines, over TYMNET, and via the data network. The TIS Intelligent Gateway Computer permits the linking of personal retrieval users. Information specialists and information requestors may jointly use and discuss the progress of an interactive search and its analysis from any location. Uncertain legal constraints by commercial information resources limit the use of downloading and post-processing at this time to bibliographical information in the public domain, e.g. DOE/RECON.

-30-

The use and value of Defense Technical Information Center products and services
(AA)ROEDERER, N. K.; (AB)KING, D. W.; (AC)BROWARD, S. E.
King Research, Inc., Rockville, Md. (HV767409)
AD-A138005 839600 p. 115 In: EN (English) Avail.: NTIS HC A06/MF A01 p.161

This study describes the use and value of the major information products and services provided by the Defense Technical Information Center (DTIC). The products and services considered include technical report distribution on an on demand basis and through the Automatic Document Distribution (ADD) program; secondary information dissemination through online searching of the Technical Reports (TR) data base, Current Awareness Bibliographies (CAB), and Technical Abstract Bulletins (TAB); and provision of management information from three management data banks. The amount and kinds of use of each of these products and services is addressed, as is the value associated with use.

-31-

Compilation of cooperative data element dictionary of five federal agencies' systems for processing of technical report literature
(AA)HENDERSON, M. M.
Henderson (Madeline M.), Bethesda, Md. (HD597738)
AD-A1387571 PB83-193771 830301 p. 78 In: EN (English) Avail.: NTIS HC A05/MF A01 p.161

The data element dictionary project consisted of the compilation of a dictionary encompassing all of the data elements used in the major systems for handling technical report literature. All those systems involved are those of the Department of Defense Technical Information Center (DTIC), Department of Energy Technical Information Center (DOE/TIC), the National Aeronautics and Space Administration Scientific and Technical Information Facility (NASA/STIF), the National Technical Information Service (NTIS), and the Government Printing Office (GPO). All those elements, both substantive and housekeeping types, used in processing technical reports, in each system are included in the compilation; each record contains the element's definition, rules for use, the tags or indicators used internally, and those used externally for information interchange.

-32-

Development of scientific information systems reviewed
Joint Publications Research Service, Arlington, Va. (J1957394)
In its USSR Rept.: Sci. and Technol. Policy, No. 17 (JPRS-84366) p. 93-96
(SEE N83-35985 23-80) Transl. into ENGLISH from Ekon. Gaz. (USSR) no. 20, May 1983 p.2 839300 p. 6 In: EN (English) Avail.: NTIS HC A06 p.389)

Improvement of the scientific and technical information system and patent and licensing work was determined. The realization of the scientific and technical program "To Create a State Automated Scientific and Technical Information System (GSNTI)" was begun. According to it, the following will be developed and introduced: line-operated methods of information service to consumers with primary source copies based on the PD-200 data transmission network and the AT-50 telegraph exchange; distributed automated data bank of scientific and technical information; sectorial problem-oriented automated information centers; republic automated scientific information systems; and international specialized and sectorial information systems of CEMA member countries.

-33-

Methods of library survival: The journal resource sharing return
(AA)CURRIE, J. B.
Defence Research Establishment Suffield, Ralston (Alberta). (D540480)
AD-A126251 PD-640901 DRES-359 830600 p. 13 refs 0 In: EN (English) Avail.: NTIS HC A05/MF A01 p.378

The current situation of journal subscriptions in a Research and Development Information Center is examined. The problem of high journal cost, literature scatter and staff-actioned maintenance duties are noted. A journal resource sharing network of similar information systems within the Research and Development branch of the Department of National Defence is proposed and its workings are illustrated.

-34-

Advantages gained by the government from a coordination of defense aerospace information
(AA)PROLI, C.
Centre de Documentation de l'Armement, Paris (France). (DS5040)
In: AGARD Use of Sci. and Tech. Inform. in the NATO Countries 9 p. (SEE N83-31531 19-82) 830300 p. 6 refs 0 In: EN (English) Avail.: NTIS HC A02/MF A01 p.326

The benefits derived by government authorities from the coordination of information in the sectors of defense and aerospace are described through the organization of the French Research Documentation Center (CEDOCAR) as well as bibliographic and factual information. The Research Design and Engineering Directorate (DRET), and its Contractors as regards information relating to research programs. Data flows and transfers within the structures of these agencies are analyzed.

-35-

Scientific and technical report services
(AA)NEWTON, T.
Ministry of Agriculture, Fisheries and Food, London (England). (M130080)
In: AGARD Use of Sci. and Tech. Inform. in the NATO Countries 5 p. (SEE N83-31531 19-82) 830300 p. 6 refs 0 In: EN (English) Avail.: NTIS HC A02/MF A01 p.325

A number of topics associated with scientific and technical report services available from defence/aerospace and other technical information centers is addressed. Abstract journals, announcement services and selective dissemination of information (SDI), microfiche, bibliographies and literature searches are covered. Document supply is treated in greater detail and covers the advantages and disadvantages of online document ordering and electronic document supply projects such as ADONIS, and APOLLO. Finally, a project to control European grey literature, System for Information on Grey Literature in Europe (SIGLE) is described.

-36-

Organizational structure and operation of defense aerospace information centers in the United States of America
(AA)SAUTER, H. E.; (AB)LUBLINE, S.
(AA)Defense Technical Information Center, Alexandria, Va.

National Aeronautics and Space Administration, Washington, D. C. (NAS5G591)
In AGARD Use of Sci. and Tech. Inform. in the NATO Countries 23 p (SEE
N83-31531 19-82) 838388 p. 23 refs 8 In: EN (English) Avail.: NTIS HC
A82/MF A01 p.3225

U.S. Government aerospace and defense information centers are addressed. DTIC
and NASA are described in terms of their history, operational authority,
information services provided, user community, sources of information
collected, efforts under way to improve services, and external agreements
regarding the exchange of documents and/or data bases. Contents show how DTIC
and NASA provide aerospace/defense information services in support of U.S.
research and development efforts. In a general introduction, the importance of
scientific and technical information and the need for information centers to
acquire, handle, and disseminate it are stressed.

-37-

The Italian Defence Scientific and Technical Documentation Centre
(AB)ROMELLI, B.
Centro di Documentazione Tecnico-scientifica della Difesa, Rome (Italy). (
CM299463)
In AGARD Use of Sci. and Tech. Inform. in the NATO Countries 4 p (SEE
N83-31531 19-82) 838388 p. 4 In: EN (English) Avail.: NTIS HC A82/MF A01
p.3225

The history of the Italian Defence Technical Scientific Documentation Center,
its structure, sectorial organization, staff consistency and qualification,
administration, its dependence, authority and tasks: structural and operational
inconveniences and present services.

-38-

Royal Netherlands Armed Forces Scientific and Technical Documentation and
Information-Center (TDCK)
(AB)BRUETZMACHER, E.
Technisch Documentatie en Informatie Centrum voor de Krijgsmacht, The Hague
(Netherlands). (TB477195)
In AGARD Use of Sci. and Tech. Inform. in the NATO Countries 17 p (SEE
N83-31531 19-82) 838388 p. 17 refs 8 In: EN (English) Avail.: NTIS HC
A82/MF A01 p.3225

The history: organization, tasks and authorization: service rendering:
user's circle and informations-sources: and recent internal developments of the
Netherlands Armed Forces Scientific and Technical Documentation and Information
Center (TDCK) are summarized.

-39-

Organizational structure and operation of defence and aerospace information
centers in the Federal Republic of Germany
(AB)BRAUN, H.: (AB)TITTLEBACH, B.
(AB)(Fachinformationszentrum Energie Physik Mathematik G.m.b.H.,
Eggenstein-Leopoldshafen, West Germany). (DV779347)
Dokumentationszentrum der Bundeswehr, Bonn (West Germany).
In AGARD Use of Sci. and Tech. Inform. in the NATO Countries 9 p (SEE
N83-31531 19-82) 838388 p. 9 In: EN (English) Avail.: NTIS HC A82/MF A01
p.3225

The objectives, tasks, users and services of both information centers are
described in detail. The spectrum of information services covers the production
of machine-readable databases, magnetic tape services, the publication of
printed information services, online services, individual information services,

like retrospective search and SDI, and literature supply, document analysis,
efficiency, operational methods and techniques are discussed as well as the
organizational structures, budgets, future trends and costs of cooperation.

-40-

Use of Scientific and Technical Information in the NATO Countries
Advisory Group for Aerospace Research and Development, Neuilly-Sur-Seine
(France). (AD455458)
AGARD-CP-337: ISBN-92-835-21-80-810888? 838388 p.231 836 8 meeting
held at Lisbon, 29-30 Sep. 198. In: EN (English) Avail.: NTIS HC
Avail.: NTIS HC A87/MF A01 p.3225

Organizational structure and operation of defence aerospace information
centers, typical services, and a coordinated information structure are
discussed. For individual titles, see N83-31532 through N83 31541.

-41-

Information and communication technology for the supply of industrial and
scientific information in the 80's: Bottlenecks and solutions.
Report, Dec. 1981
(AB)WOLFF, H.: (AB)HOFER, D.: SCHRADER, D.: 60 BLATA, 6 H 46 REFS:
J.
Prognos A.G., Basel (Switzerland). (PGR563) Bundesministerium fur
Beratung, BMFT-FB-1D-82-071 ISBN-8178-8918 Bundesministerium fur Forschung und
Technologie, Bonn. In EN (English) summary, section. A. 2777-7-...
(Mixed) Avail.: NTIS HC A87/MF A01 Fachinformationszentrum 4. Karlsruhe.
Germany DM 35 p.1799

The structuring of the interdependencies in the industrial and scientific
information process between decision makers and their staff, professionals,
publishers, information brokers, documentation centers, and libraries is
discussed. Their special activities and their problem, their impact on the
system of information supply for industrial and scientific purposes, and
organizational and technical solutions there and software are outlined.

-42-

International cooperative information systems
International Development Research Centre, Ottawa (Ontario).
IDRC-156E 838388 p. 111 refs 8 In: FRENCH and ENGLISH In: EN (Mixed)
Avail.: NTIS (US Sales Only) HC A06/MF A01 IDC Depository Libraries p.???

Developing countries need mechanisms by which the information they generate
themselves and development information from the rest of the world can be
retrieved. The international cooperative information systems are the international
mechanism. Delegates to the Seminar on International Cooperative Information
Systems were informed about various existing systems: INIS, AGRIS, INTERNET,
TCDC/INRES, POPIN, DEVSIS, and INFOTERM. Specialized information system
and services (CDS/ISIS) and the Common Information Center, and computer
programs for information processing (INIS/AGRIS, CDS/ISIS, MINISIS), The
participants suggested some changes that should be made to the national
and the international levels to ensure that these systems serve the needs of
developing countries more effectively.

-43-

Source header list. Volume 2: L through Z   / Report for period ending 8
Apr. 1982
(AA)RUNNELL, J. P.
(AA)comp.
Defense Technical Information Center, Alexandria, Va. (DK465579)
AD-A115081 DTIC/TR/82-2-VOL-2 820408   p. 413   Supersedes
DTIC/TR/81/2 In: EN (English) Avail.: NTIS HC A18/MF A01   p.2387

This publication is a two volume, alphabetically arranged, compilation of
source names used by the Defense Technical Information Center (DTIC). Each
source name is assigned a 5-digit numeric code for computer input and retrieval
purposes plus a 4-digit alphanumeric geopolitical code and an alphanumeric type
code. Source names displayed are included as data elements in the Technical
Report, Work Unit Information System, Research and Development Program
Planning, and Independent Research and Development data bases maintained by
DTIC. These volumes replace the DTIC Source Header List, dated January 1981
(AD-A094801).

-44-

Source header list. Volume 1: A through K   / Report for period ending 8
Apr. 1982
(AA)RUNNELL, J. P.
(AA)comp.
Defense Technical Information Center, Alexandria, Va. (DK465579)
AD-A115080 DTIC/TR/82/1-VOL-1 820408   p. 456   Supersedes
DTIC/TR/81/2 In: EN (English) Avail.: NTIS HC A21/MF A01   p.2387

This publication is a two volume, alphabetically arranged, compilation of
source names used by the Defense Technical Information Center (DTIC). Each
source name is assigned a 5-digit numeric code for computer input and retrieval
purposes, plus a 4-digit alphanumeric geopolitical code and an alphanumeric
type code. Source names displayed are included as data elements in the
Technical Report, Work Unit Information System, Research and Development
Program Planning, and Independent Research and Development data bases
maintained by DTIC. These volumes replace the DTIC Source Header List, dated
January 1981 (AD-A094800).

-45-

Proposal and justification for establishing Strategic Technology Information
Analysis Center
Ballistic Missile Defense Advanced Technology Center, Huntsville, Ala. (
BC820158) Optics Directorate.
AD-A111656 811204 p. 135   In: EN (English) Avail.: NTIS HC A07/MF A01
p.2482

This document is intended to provide the Defense Logistics Agency (DLA) with
the information needed to support a decision to establish a Strategic
Technology Information Analysis Center (STIAC). This center would provide a
mission-oriented focus for strategic technology, operating similar to the
highly successful DLA-managed centers for other disciplines. The need for this
activity has been endorsed by the appropriate Government and industry managers.

-46-

Directory of energy and environment libraries and information centers in the
metropolitan Washington D.C. area
(AA)BERMAN, E. L.

Committee on Information Hang-ups, Washington, D.C.   (CI820PA). Energy
Systems Group.
PB82-123593 810800 p. 142 In: EN (English) Avail.: NTIS HC A08/MF A01
p.1737

Information on the resources, services, and policies of each library,
information center is provided. The directory is arranged alphabetically by
name of parent organization. Indexes to key staff members, subject coverage,
types of material, and online search services are included. Terms in the
subject index conform to the subject list in the questionnaire (Appendix A).
The index to Types of Material draws its terms from a list in the resources
section of the questionnaire.

-47-

Directory of the NOAA Library and Information Network / Key to Oceanic and
Atmospheric Information Sources
National Oceanic and Atmospheric Administration, Washington, D. C. (UJPA0P6
) Environmental Data and Information Service.
PB82-114691 NOAIS-2/ NOAA-8180200 801800 p. 24 refs 0 In: EN (English)
Avail.: NTIS HC A03/MF A01   p.1385

The Directory of the NOAA Library and Information Network describes the
services provided by NOAA Libraries and Information Centers in the Washington,
DC area, at Miami and Coral Gables, FL, and Boulder, CO, and by over 200
other libraries and information centers that serve principal organizational
elements of NOAA's major line components. Arrangement is in alphabetical
sequence by major line components of major program elements, except for the
Environmental Data and Information Service, the Environmental Research
Laboratories, and the National Marine Fisheries Service, where organization
hierarchy (EDIS and ERL) or geographic locations (NMFS) were considered.

-48-

Regional needs regarding technical information
Mid-American Solar Energy Complex, Minneapolis, Minn. (RY730NA)
DE82-001721 MASEC-R-81-6571 A-10-X DE-AC02-7CI-3019 810700 p. 16 refs
0 In: EN (English) Avail.: NTIS HC A02/MF A01   p.793

Regional needs for technical information regarding solar systems and
components are evaluated. The information requested from the MASEC Information
Center can be separated into design, performance, and economic categories. The
types of questions most frequently asked in each of these categories are
listed. Comments by MASEC on the draft of the National Solar Data Network
(NSDN) program are presented in the appendix.

-49-

Analysis of responses to survey of DTIC's military users on current and
planned technical library/information center automation / Final Report
(AA)BONNETT, M. B.
Defense Technical Information Center, Alexandria, Va. (DK465579) Office of
Information Systems and Technology.
AD-A105587 811000 p. 29 refs 0 In: EN (English) Avail.: NTIS HC A03/MF
A01   p.656

This survey has been undertaken to determine current use of automated functions in
DTIC User Technical Libraries' areas where new services and support were
desired from DTIC, and what automation efforts were planned and budgeted.
Forty-seven percent of the responses indicate some automated functions in the
library, concerned, ranging from access to DROLS or commercial services by
terminal to totally automated, integrated systems. Responses to the question

requesting identification of additional or expanded services from DTIC, 123 requests were indicated. They include: remote site bibliographic films, 181 electronic mail service, 131 consultation and advice, 391 automated library model, 111 dial-up access to DROLS, 121 and other service, 28. A total of 195 specific automation projects were identified as in the plans of respondents.

-50-

Defense Technical Information Center free text experiment: Management data bases / Information Retrieval Report, Jan. - Jul. 1981
(AA)THOMPSON, C. J.
Defense Technical Information Center, Alexandria, Va. (DK465579) Office of Information Systems and Technology.
AD-A165570 811000 p. 35 refs @ In: EN (English) Avail.: NTIS HC A03/MF A01 p.711

DTIC has conducted an experiment that utilizes the free text inversion technique to retrieve records from the DROLS management data bases. It was felt that free text inversion as a form of retrieval would be beneficial in supporting DTIC's revitalized role in the transfer of technical information. The intent of this project was to determine if the free text inversion technique could be implemented in the management data bases without severely impacting the on-line system. Response time, storage capacity and relevance of reports were the major areas of concern.

-51-

Defense Technical Information Center free text experiment: Technical report file / Final Report, Dec. 1979 - Jan. 1981
(AA)CARNEY, J. L.; (AB)THOMPSON, C. J.; (AC)EDMONDSON, C. D.
Defense Technical Information Center, Alexandria, Va. (DK465579) Office of Information Systems and Technology.
AD-A165449 811000 p. 39 In: EN (English) Avail.: NTIS HC A03/MF A01 p. 423

DTIC has conducted an experiment that utilizes the free text inversion technique to retrieve records from the Technical Reports data base. It was felt that free text inversion as a form of retrieval would be beneficial in supporting DTIC's revitalized role in the transfer of technical information. The intent of this project was to determine if the free text inversion technique could be implemented on the DROLS on-line system without severely impacting the on-line system's storage capacity and to determine whether the added capability could improve upon or replace the present practice of using open-ended/identifier indexing terminology. Based on the results of the experiment, it was determined that searching of DTIC's Technical Reports data base is a viable retrieval technique that will provide searchers with an additional enhancement that can be used to augment DTIC's present retrieval methods. However, evidence that will support the use of free text in lieu of the use of identifiers and open-ended terminology remains inconclusive. Additional data collected in a 'live environment' will have to be analyzed before a conclusion can be made concerning the use of open-ended terminology.

-52-

Government acronyms and alphabetic organizational designations used in DTIC / Progress Report, period ending May 1981
(AA)BROWN, L. M.
(AB)comp.
Defense Technical Information Center, Alexandria, Va. (DK465579)
AD-B101300l DTIC/TR-81/5 810600 p. 61 In: EN (English) Avail.: NTIS HC A04/MF A01 p.2990

This compilation is a guide to acronyms as assigned by the Defense Technical Information Center (DTIC). The listing contains entries from the Department of Defense (DoD), Federal Government and foreign military organizations. The acronyms reflect reports processed into the DTIC collections. In all instances, the acronyms are those actually used by the organizations itself. The listing is arranged in three parts, as follows: alphabetically by acronym; alphabetically by full name of organization, and numerically by Corporate Author (Source Header) code as used in DTIC.

-53-

Proceedings of the DOD Technical Information Conference for R and D Managers Office of the Deputy Secretary of Defense, Washington, D.C. (DK465378)
AD-A186600 810500 p. 73 Conf. held in Washington, D.C. 16-17 Mar. 1981
In: EN (English) Avail.: NTIS HC A04/MF A01 p.2850

Approximately 90 scientists, engineers, and technical managers from Government and industry participated in the conference and workshop sessions at the National Defense University. In the principal recommendations were: an OSD level technical information focal point should be designated a DoD technical information advisory council should be appointed a Defense Technical Information Center program plan should be developed and the Defense Technical Information Center should be designated as a major program element.

-54-

Organization and Management, section 11
(AA)LEITCH, D. M. (HE260550)
Manchester Univ. (England).
In AGARD Manual of Doc. Pract. Appl. to Defence-Aerospace Sci. and Tech. Inform., Vol. 4 p 33-92 (SEE N81-27972 18-82) 810300 p. 59 refs @ In: EN (English) Avail.: NTIS HC A06/MF A01 p.2556

The establishment of a technical information center and its aims and objectives are discussed. The identification and fulfillment of user requirements are shown to be vital to its success and the way in which these can be achieved by good management is emphasized. Careful planning is essential at all stages and many aspects of planning are described. The role of the staff, in particular that of the information manager, is defined and the effectiveness of the information center is shown to be highly dependent on their contribution to it. Budget management and stock control are discussed and the impact of mechanization is considered. Active promotion of the services of the center is necessary and ways of achieving this are outlined.

-55-

Storage and security Control, section 18
(AA)SIMS, M. B. (AD455450)
(AB)(Sims, (Michael B.), England)
Advisory Group for Aerospace Research and Development, Neuilly-Sur-Seine (France). (AD455450)
In its Manual of Doc. Pract. Appl. to Defence-Aerospace Sci. and Tech. Inform., Vol. 4 p 5-31 (SEE N81-27972 18-82) 810300 p. 27 refs @ In: EN (English) Avail.: NTIS HC A06/MF A01 p.257

The organization and administration of the security arrangements in a documentation center are described. The problems raised by the need for physical and personnel security are discussed. Document security requirements...

are considered from publication stage, through to issuing, dissemination, release, filling, storage, handling, circulation control, downgrading, and final disposal. The security grading of document is described. Access to sensitive documents by onsite users and external borrowers is considered. The differing requirements for security of items in various formats are discussed. The protection required in peripheral areas such as reprographic and computer rooms is considered.

-56-

Manual of documentation practices applicable to defence-aerospace scientific and technical information, volume 4

(AA)SCHULER, B. C.
(AA)ed.
Advisory Group for Aerospace Research and Development, Neuilly-sur-Seine (France). (AD453A58)
AGARD-AG-235-VOL-4 ISBN-92-835-1382-71 AD-A102269 810300 p. 124 refs 6
Int EN (English) Avail.: NTIS HC A06/MF A01 p.2557

Several aspects of technical information services are considered. Security requirements, the management of documentation centers, and national and international information networks are discussed. For individual titles, see N81-27973 through N81-27975.

-57-

Source hierarchy list. Volume 1: A - H / Progress Report, period ending Dec. 1980

(AA)MCCADDEN, J. J.t (AB)BLADD, B. P.
(AA)comp.t (AB)comp.
Defense Technical Information Center, Alexandria, Va. (DK465979)
AD-A0983661 DTIC/TR-81/4-VOL-11 DTIC/TR-80/2-VOL-1 810200 p. 674
Supersedes DTIC/TR-80/2-VOL-1 Int EN (English) Avail.: NTIS HC A99/MF A01
p.2261

This is the first of two volumes of an alphabetical listing of corporate authors as used for announcement of reports received in the Defense Technical Information Center (DTIC). Former names of organizations are included and displayed below the current source name used by DTIC. Cross references direct the user from sub-element organizations to the major source level entry where they are also displayed. Major and sub-hierarchies are preceded and ended by a row of asterisks. This list is used in conjunction with and is not a replacement for DTIC's Source Header Leader List Volume 1, AD-A094068 and Volume 2, AD-A094061. It displays only those source names from the Source Header List for which hierarchical linkages are pertinent.

-58-

Energy information referral directory, fourth quarter 1980 Energy Information Administration,
Department of Energy, Washington, D. C. (DK226776)
DOE/EIR-0205/80-4Q 800900 p. 178 Int EN (English) Avail.: NTIS HC A08/MF
A01 p.1992

This directory provides the name, address, and phone number of various energy information offices within the DOE and other Federal agencies. The arrangement is topical. Each entry presents the name of the office, the address, the main contact person, and a summary of the office's primary activities. A comprehensive subject index to the entries is provided as well as a name index. In addition, the publication contains several appendices in which DOE Regional Energy Information Centers, state energy offices, DOE

commercialization-resource managers, and DOE research and development and field facilities are listed. Charts illustrate the DOE and the EIA organizational structure.

-59-

Information retrieval
(AA)NORTON, T.
Royal Aircraft Establishment, Farnborough (England). (R276960)
In AGARD Manual of Doc. Pract. Appl. to Defence-Aerospace Sci. and Tech.
Inform. Vol. 3 42 p (SEE N81-17908 08-82) 801000 p. 42 refs 0 Int EN
(English) Avail.: NTIS HC A09/MF A01 p.1136

After a brief historical overview of information retrieval (IR), a model of an IR system is presented and described. The characteristics of coordinate indexing systems are reviewed and shortcomings noted. The principle of postcoordinate indexing systems and examples of feature card and edge punched card systems with suggested applications are described. Problems of vocabulary control are discussed and suggestions on thesaurus construction and presentation are given. The use of computers to produce various types of indexes (KWIC, KWOC, and SLIC) is briefly described. The features of computerized dial up on-line information systems are discussed: equipment, telecommunications, file organization, search preparation and strategy, staff training, advantages and limitations of such systems, and future developments. An appendix outlines the principal features of specialized information centers.

-60-

Manual of documentation practices applicable to defence-aerospace scientific and technical information, volume 3

(AA)SCHULER, B. C.
(AA)ed.
Advisory Group for Aerospace Research and Development, Neuilly-sur-Seine
(France). (AD453A58)
AGARD-AG-235-VOL-3 ISBN-92-835-1373-91 AD-A095032 801000 p. 191 refs 0
Int EN (English) Avail.: NTIS HC A09/MF A01 p.1136

Various aspects of information retrieval are described including the principles of post coordinate indexing, examples of feature and edge punched card systems, the use of computers to produce various types of indexes, and the role of dial up on-line systems. Information dissemination practices are outlined and a survey of procedures used by a number of international technical information centers is given. The preparation and reproduction of research and development publications, in both paper and microfiche media are described. The factors involved in setting up production facilities are discussed. For individual titles, see N81-17951 through N81-17953.

-61-

Announcement services and publications
(AA)RIDLER, E. H.
Defence Research Information Centre, Orpington (England). (DK578110)
In AGARD Manual of Doc. Pract. Appl. to Defence-Aerospace Sci. and Tech.
Inform., Vol. 2 p 101-121 (SEE N80-34298 24-82) 800700 p. 21 refs 0 Int EN
(English) Avail.: NTIS HC A06/MF A01 p.3356

The methods by which an information center announces its holdings and recent acquisitions to its users are surveyed. Examples are given of manually and computer produced bulletins from a number of information centers and libraries and production of indexes to computer produced bulletins is discussed. Manual and computer based SDI services are described with notes on profile

construction, use of commercial magnetic tapes to extend an in-house SDI service, and standard profiles. Other services which involve repackaging the literature resources of a center are reviewed, including bibliographies, state of the art reports, and packaged information to assist industry with technical innovation.

-62-

The management of documents having a restricted character
la question des documents ayant un caractere de restriction
(AA)KLOPP, J. H.
Centre de Documentation de l'Armement, Paris (France). (CK585409) Div. Information.
In AGARD Intern. Access to Aerospace Inform. 5 p (SEE N80-32283 22-82)
8004400 p. 5 refs 1 In: FR (French) Avail.: NTIS HC A06/MF A01 p.3077

Documents containing military or industrial secrets or information reserved to the needs of the State are best managed in a manner analogous to that used for open documents, but with important security regulations imposed by a documentation center. It is preferable for a defense documentation center to create a chain of use parallel to the classic chain of use for open documents, rather than to intermingle documents. The most important advantage of the decision to create a special center for processing classified documents is an uncontested control of the stamping, stocking, and dissemination of these documents. The importance of declassification is discussed and a table is provided showing the markings used by NATO and 14 of its member nations for the various classifications of restricted documents.

-63-

Access to aerospace information: The Greek situation
(AA)KOUROGENIS, K. N.
Scientific Research and Technology Agency, (Greece). (SE253542)
In AGARD Intern. Access to Aerospace Inform. 4 p (SEE N80-32283 22-82)
8004400 p. 4 refs 0 In: EN (English) Avail.: NTIS HC A06/MF A01 p.3077

The establishment of the Greek National Information Program in the form of the National Documentation Center (NDC) is described. The role of the NDC is to create and coordinate a national network of scientific and technical data and information in accordance with international standards and to disseminate processed information to those interested with a view to the economic development of the country. Bibliographies, reprographic services and translation and terminology services are to be provided by the NDC.

-64-

Data element dictionary: DTIC uniform data system
(AA)KUHN, A.; (AB)YOUNG, M. L.
(AA)comp.; (AB)comp.
Defense Technical Information Center, Alexandria, Va. (DK469579)
AD-A0838001 DTICH-4185.B 8004400 p. 553 In: EN (English) Avail.: NTIS HC A24/MF A01 p.3076

The dictionary standardizes the data elements and identifies the data uses that constitute the Defense Technical Information Center uniform system. These standardized data elements enable DTIC to incorporate its data banks, currently operating independently, into a uniform system. They provide the capability of standardized access to all component data bases, or any combination of them. The dictionary serves as a communication link between system designers, programmers and subject specialists. It provides a foundation for effective management of data. Detailed descriptions of the current data banks and their relationships to the planned uniform system are included.

-65-

Source header list, supplement 3 / Progress Report, period ending 9 Jun. 1980
(AA)BURRELL, J. P.
Defense Technical Information Center, Alexandria, Va. (DK469579)
Directorate of Base Services.
AD-A097000I DTIC/TR-80/5-SUPPL-3I DDC/TR-79/1-SUPPL-2 8008400 p. 391
Supersedes DDC/TR-79/1-Suppl-2 In: EN (English) Avail.: NTIS HC A14/MF A01 p.3076

Source names used by the Defense Technical Information Center in the Research and Technology Work Unit Information System, and the Technical Report, Progress Planning, and Independent Research and Development Data Banks are compiled alphabetically. Each of the source names is assigned a 6 digit numeric code for computer input and retrieval, a 4 digit alphanumeric geopolitical code and a 1 digit alphanumeric type code. This supplement is a companion to the Source Header List, AD-A041700.

-66-

User need in documentation and information. Citations from the NTIS data base / Progress Report, 1977 - Mar. 1980
(AA)YOUNG, M. E.
National Technical Information Service, Springfield, Va. (NN801430)
P800-8079101 NTIS/PS-79/0407I NTIS/PS-78/0431 8008400 p. 220 Supersedes NTIS/PS-79/0407I NTIS/PS-78/0431 In: EN (English) Avail.: NTIS HC $30.00/MF $30.00 p.2502

Reports on meeting the needs of the information sciences user in the most direct and specific war are cited, including methods used to determine those needs and measures taken to fulfill them in application to educational resources, data bases, data management, library networks, photographic recording systems, technical information centers, and consulting services. This updated bibliography contains 213 abstracts, 50 of which are new entries to the previous edition.

-67-

DTIC cataloging guidelines
(AA)BLADD, B. P.
Defense Technical Information Center, Alexandria, Va. (DK469579)
AD-A0808001 DTIC/TR-80/11 DDC/TR-78/3 8008100 p. 86 refs 8 Supersedes DDC/TR-78/3 In: EN (English) Avail.: NTIS HC A05/MF A01 p.1922

Defense Technical Information Center (DTIC) rules for cataloging of reports for computer entry are arranged in numeric order by the number designations of the computer fields described. Data regarding space limitations for each field are provided. Additional fields have been added to previous edition to include regarding of classified reports to implement EO 12065 effective 1 December 1978. These rules are an adaptation of Guidelines for Descriptive Cataloging of Reports, A Revision of COSATI Standard for Descriptive Cataloging of Government Scientific and Technical Reports, published in March 1978 as AD-A055698. Subject fields and groups, abstracts, posting terms and candidate posting terms are discussed briefly. Included is an appendix from COSATI of personal author surnames with separately written prefixes, as well as several appendices designed for use by trainee catalogers.

-68-

Better information management policies needed: A study of scientific and technical bibliographic services
General Accounting Office, Washington, D. C. (GB263442)
PB-299776/61 PB0-79-62 790006 p. 75 refs 8 In: E/ (English) Avail.:
NTIS HC A04/MF A01 p.484

BB0's study of government information centers providing bibliographic services to the scientific and technical community is presented. It confirmed the need for better management. Evidence of duplication, proliferation of facilities, and inconsistent cost recovery practices were found. The vagueness of authorizing laws and function statements contributes to the duplication of services. Each department and agency should designate a top official to coordinate and manage its information, and the Office of Management and Budget should establish a committee to coordinate government scientific and technical information activities.

-69-

User needs in documentation and information. Volume 2. A bibliography with abstracts / Progress Report, 1977 - Apr. 1979
(AA)YOUNG, M. E.
National Technical Information Service, Springfield, Va. (NN661438)
NTIS/PS-79/0407/11 NTIS/PS-78/0431f NTIS/PS-76/0325f
NTIS/PS-75/189 790506 p. 171 Supersedes NTIS/PS-78/0431, NTIS/PS-77/0431t NTIS HC
NTIS/PS-76/0325 and NTIS/PS-75/189 In: EN (English) Avail.: NTIS HC
$28.00/MF $28.00 p.2886

Reports on meeting the needs of the information sciences user in the most direct and specific way are cited, including methods used to determine those needs and measures taken to fulfill them in application, to educational resources, data bases, data management, library networks, photographic recording systems, technical information centers, and consulting services.

-70-

Federal Information Centers Act
Committee on Governmental Affairs (U. S. Senate). (CX361701)
B-REPT-95-1129: GPO-32-715 GPO Washington 790006 p. 19 Rept. to
accompany S. 3259 from the Comm. on Governmental Affairs, 95th Congr. 2d
Sess., 22 Aug. 1976 In: EN (English) Avail.: US Capitol, Senate Document Room
p.2346

The Committee on Governmental Affairs to which was referred the bill (S. 3259) a bill to authorize the establishment of Federal information centers, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass. S.3259 is to establish legislative authority for a national system of Federal information centers. Federal information centers provide direct help to citizens with questions about Federal Government services, progams and regulation. The Federal Information Centers Act authorizes the Administrator of the General Services Administration (GSA) to establish a nationwide network of Federal information centers. The Administrator is further authorized to prescribe necessary regulations for managing the information centers.

-71-

Requirements for legal/economic information
(AA)VANPOELJE, J. M.
Ministry of Economic Affairs, The Hague (Netherlands). (M1450266)
In: AGARD Informs. and Ind., 4 p (SEE N79-80912 11-82) 790100 p. 4 In: EN
(English) Avail.: NTIS HC A05/MF A01 p.1502

Sources of information, kinds of collected information, distribution of information, communication with sources, and communication with users were examined as a means of supplying information in Dutch trade and industry. The Documentation Center of Economic Information Service is described. Publications and automation in information systems are presented.

-72-

A planning model for the financing of information centers, volume 1 and 2 /
Ph.D. Thesis
(AA)LEVY, D. L.
Purdue Univ., Lafayette, Ind. (P9391092)
790000 p. 627 In: EN (English) Avail.: Univ. Microfilm Order No. 7902742
p.1363

The method presented here as an aid to managers is that of computerized planning models. The model, ICMS, model. This model is a management tool designed to assist in the information center financial of a simulated information center. This simulated center can be the existing one incorporating policy changes, or one just starting operations. The ICMS model allows for the treatment of the various aspects of financial management to be included in the performance analysis of the simulated centers. The ICMS model also provides the information center manager with an instrument for learning about the financial management process and at the same time providing him an aid for financial management decisions.

-73-

Abstracting and subject analysis
(AA)BEARMAN, T. C.
National Federation of Abstracting and Indexing Services, Philadelphia, Pa
(N1356761)
In: AGARD Manual of Doc. Pract. Appl. to Defence-Aerospace Sci. and Tech.
Inform., Vol. 1 p 45-64 (SEE N79-13926 84-82) 790000 p. 20 refs 8 In: EN
(English) Avail.: NTIS HC A04/MF A01 p.534

A practical approach to abstracting and indexing in aerospace - d defense documentation centers is presented for senior staff setting up a new system, as well as for junior staff interested in training assistance. Major subject areas covered include abstracting, subject and analysis, thesaurus development, and automation. Specific aspects such as definition and scope, types of indexes and abstracts, and relevant standards are discussed. Various techniques are summarized and references to authoritative ... are cited.

-74-

Descriptive cataloging - processing technical reports
(AA)GLADD, B. P.; ABILUCHENKA, O. G.; AC WADE, J. C.
Defense Documentation Center, Alexandria, Va. (DF81393)
In: AGARD Manual of Doc. Pract. Appl. t Defence-Aerospace Sci. and Tech.
Agency.

Inform., Vol. 1 p 23-44 (SEE N79-13926 04-82) 780000 p. 22 refs 0 In: EN (English) Avail: NTIS HC A04/MF A01 p.534

The functions and purposes of descriptive cataloging as applied to processing technical report literature are defined and the comparative merits of manual vs. automated systems are discussed. Descriptive data elements required for processing technical reports are listed and guidelines are given for using these elements in a system presently automated or which may be automated in the future. A conversion table is included to indicate the relationship to data elements used in conventional cataloging. The consolidated experience of large documentation centers in the United States was used to develop the guidelines.

-75-

Consolidation of technical information activities several Air Force research laboratories into a single technical information center / Final Report, 1 Jul. 1975 - 30 Sep. 1977
(AA)SCHEFFLER, F. L.f (AB)MARCH, J. f.
Dayton Univ., Ohio. (DE333333) A1316306
AD-A0036281 UDRI-TR-78-141 AFML-TR-78-94 F33615-75-C-5005 AFM
Wright-Patterson AFB, Ohio 780600 p. 86 refs 0 In: EN (English) Avail: NTIS HC A05/MF A01 p.533

In order to improve technical information services to four research and development laboratories -- Air Force Materials Lab (AFML), Air Force Avionics Lab (AFAL), Air Force Flight Dynamics Lab (AFFDL), and Air Force Aeropropulsion Lab (AFAPL) -- the information activities of each individual laboratory are being consolidated into a centralized facility. This consolidation is being accomplished under the auspices of the Air Force Wright Aeronautical Laboratory (AFWAL), a new organization which combines the planning and operations activities of the four laboratories. The AFWAL Technical Information Center (AFWAL-TIC) was chartered (1) to improve the flow of technical information (2) to effect economies by large-scale operation and elimination of undesirable duplication; (3) to support the information needs of AFWAL scientists, engineers, and managers; (4) to provide efficient and economical library services; (5) to promote research of and reference to available scientific and technical information and (6) to operate information for industry offices.

-76-

DDC cataloging guidelines / Information Processing Report
(AA)BLADD, B. P.
Defense Documentation Center, Alexandria, Va. (DK033945)
AD-A0577001 DDC/TR-78/3 780000 p. 82 refs 0 In: EN (English) Avail: NTIS HC A05/MF A01 p.262

Defense Documentation Center (UDC) rules for cataloging of reports for computer entry are arranged in numeric order by the number designations of the computer fields described. Additional data regarding space limitations for each field are provided. These rules are an adaptation of Guidelines for Descriptive Cataloging of Reports, A Revision of COSATI Standard for Descriptive Cataloging of Government Scientific and Technical Reports, published in March 1978 as AD-A0360360. Subject fields and groups, abstracts, posting terms and candidate posting terms are discussed briefly. Included is an appendix from COSATI of personal author surnames with separately written prefixes, as well as several appendices designed for use by trainee catalogers.

-80-

Guidelines for descriptive cataloging of reports: A revision of COSATI standard for descriptive cataloging of government scientific and technical reports

Committee on Information Hang-Ups, Washington, D.C. (CX382946) Working Group on Updating COSATI. AD-A058900001 PB-277951l C1H-78/01 780300 p. 72 Revised In: EN (English) Avail.: NTIS HC A04/MF A01 p.1786

The guidelines provide rules which can be used to produce practical uniformity of descriptive cataloging among those agencies, libraries and information centers who are exchanging bibliographic information in the report literature field, especially on magnetic tape or on-line. The principle changes in this edition, in addition to updating of examples, are: addition of a rule for state and local government agencies, inclusion of abbreviations for foreign as well as English words, use of two-letter abbreviations for state names, updating the names of foreign countries and adding their two-letter codes, adding information about patents and copyrighted material, updating and expanding the list of contract numbers and of permissible abbreviations in report numbers.

-81-

Assessments of defense information and documentation needs

(AA)SAUTER, H. E.
Defense Documentation Center, Alexandria, Va. (DK033945)
In: AGARD The Impact of Future Develop. in Commun., Inform. Technol. and Natl. Policies on the work of the Aerospace Inform. Specialist 8 p (SEE N78-11073 02-82) 770300 p. 8 refs 0 In: EN (English) Avail.: NTIS HC A01/MF A01 p.262

Historically, the Defense Documentation Center (DDC) has been and still is, a statistical document and bibliography oriented activity. It is responsible for the appropriate data and documentation to increase the effectiveness of others within the Department of Defense and its ... the largest portion of the U.S. ... manage by far, ... budget for the research, development, test and evaluation program. ... realized within the past few years that the scope of the Center ... continue satisfying its user population in today's research ... community. As a consequence, formal studies were conducted to ... predictions of user requirements, as well as the forecasts and ... information technology, into a set of realistic, well-conceived and ... objectives for DDC programs in the next decade.

-82-

... rare earth information center's information ...

-83-

Northeast Academic Science Information Center (NASIC) / Final Report Mar. 1973 - Dec. 1976 (Computer-based information services)

(AA)WAX, D. M.: (AB)VAUGHAN, P. E.
New England Board of Higher Education, Wellesley, Mass. (NM86017O)
PB-267758/1 NSF SIS-73-083661 NSF GK-3729E 770500 p. 118 In: EN (English)
Avail.: NTIS HC A06/MF A01 p.3149

Programs developed to promote the increased and more effective use of machine-readable bibliographic information resources to support the information needs of the academic research community of the Northeast are discussed.

Activities include the continued testing and evaluation of available computer-based information services; extensive marketing of information services to a significant portion of the academic community of the Northeast, the development of training materials and programs to enable academic libraries to provide the intellectual interface vital to the effective utilization of machine-readable information services, and the development and implementation of managerial arrangements for the maximum utilization of computer-based information services.

-84-

EPA library data processing systems procedures and users' guide

(AA)MOORE, E. A. (E0114162) Library
Environmental Protection Agency, Washington, D.C. Systems Branch.
PB-258487/8: EPA-LIB-76-07 760800 p. 50 In: EN (English) Avail.: NTIS HC A03/MF A01 p.1520

The EPA Library System consists of several information centers and 28 libraries. The EPA Library System is supported by computer systems covering journal and hard bound book holdings, journal check-in, circulation, document control, EPA Reports, international exchange items and specialized subject area collections. All Systems except circulation produce hard copy and Computer Output on Microform (COM) indexes, bibliographies and special reports.

-85-

Information center as a technical institute unifying a user community

(AA)MASKEWITZ, B. F.: (AB)MCGILL, B.: (AC)HATMAKER, N. A.
Oak Ridge National Lab., Tenn. (DA789470)
CONF-760510-1 Sponsored by ERDA 760000 p. 13 refs 0 Presented at 5th Mid-year Meeting of Am. Soc. for Inform. Sci., Nashville, 20-22 May 1976 In: EN (English) Avail.: NTIS HC A02/MF A01 p.1383

The historical background to the information analysis center concept is presented. The Radiation Shielding Information Center (RSIC) at ORNL is cited as an example of the information analysis center. RSIC objectives and scope are described, and RSIC's role in unification of the field of shielding is discussed. Some problems in handling information exchange with respect to computer codes are examined.

-86-

Minicomputers in library circulation and control

(AA)LEHMANN, K. D.
Stadt- und Universitaetsbibliothek, Frankfurt am Main (West Germany). (
S7131635)
In AGARD Advan. in Retrieval Technol. as Related to Inform. Systems 5 p

END
DATE
8

(SEE N77-16530 07-82) 761200 p. 5 refs 0 In: EN (English) Avail.: NTIS HC A08/MF A01 p.962

The growing need for information services poses increasing problems for libraries and documentation centers. Data processing techniques provide several possibilities for improvement, among the most recent techniques are the use of minicomputers. A description of the mode of operation in library loan posting is given, as well as a discussion of the extent and structure of data, linkage possibilities, and special operational features. For these specialized applications a short survey of the hardware configuration and software of minicomputers is also presented. Comparison is made between a stand alone system and a minicomputer connected to a background computer. This study is based on actual projects existing in the Federal Republic of Germany.

-87-

The use of a mini-computer at the Defence Research Information Centre (DRIC)
(AA)HART, B. W.
Defence Research Information Centre, Orpington (England). (DM57B118)
In Retrieval Technol. in Inform. Systems 13 p
In AGARD Advan. in Retrieval Technol. as Related to Inform. Systems
(SEE N77-16530 07-82) 761200 p. 13 refs 0 In: EN (English) Avail.: NTIS HC A08/MF A01 p.962

The functions of the Defence Research Information Center (DRIC) are outlined. A minicomputer is used to prepare the 'Abstracts Bulletin' and its indexes, and to provide data on the exchange of reports with foreign countries. Future possible applications for the computer, a loans control system particularly for of the interests of DRIC's customers, a loans control system particularly for classified reports, thesaurus look up to help the scientific staff, and information retrieval (both SDI and retrospective). A brief summary of other uses of computers in the UK Ministry of Defence information and library services is included.

-88-

Community Information and Services Centers (CISC's): Concepts for activation
(AA)HOPKINS, C.
Office of Telecommunications, Washington, D. C. (DK499951)
PB-236420/A1 OTR-76-94 760700 p. 128 refs 0 In: EN (English) Avail.: NTIS HC A07/MF A01 p.540

Telecommunications technology is described as are data bank contents, an operational plan, basic community service center functions, and integration of a CISC with the 911 emergency center. Comments are made on staff training, space requirements, CISC location, and estimated costs of the experiment. A bibliography is included.

-89-

Planning and installation of an information center on fatigue and associated aspects at the LBF
(AA)BUXBAUM, O.
(AA)(Fraunhofer Gesellschaft, Laboratorium fuer Betriebsfestigkeit, Darmstadt, West Germany)
In: Problems with fatigue in aircraft Proceedings of the Eighth Symposium and Colloquium, Lausanne, Switzerland, June 2-5, 1975. (A77-13751 03-39) Emmen, Switzerland, Eidgenoessisches Flugzeugwerk, 1975, p. 5.1/1-5.1/5. 7500000 p. 5 In: EN (English) p.444

The considered information center is to serve the needs of industry and research in providing up-to-date and critically analyzed technical information

related to fatigue phenomena and the fatigue behavior of materials. In 1974 a predesign study concerning the information center was conducted, taking into account the group of potential users, the type of information expected, the scope of the literature of fatigue, organizational aspects, and financial questions. The results of the study are briefly discussed.

-90-

Source header list / Report for period ending 24 Feb. 1976
Defense Documentation Center, Alexandria, Va. (DK033945)
AD-A0221501 DDC-TR-76-21 DDCH-4185.4 760300 p. 774 Supersedes DDCH-4185.4
In: EN (English) Avail.: NTIS p.2804

Source names used by the Defense Documentation Center in the Research and Technology Work Unit Information System, and the Technical Report, Program Planning and Independent Research and Development Data Banks are compiled alphabetically. Each source name is assigned a 6-digit numeric code for computer input and retrieval, a 4-digit alphanumeric geopolitical code and a 1-digit alphanumeric type code. As of 24 February 1976, there are 23,585 source codes assigned.

-91-

An information analysis centre (a management analysis on costs of operating, and user requirements)
(AA)HARVEY, R. B. (DT462897)
Defence Scientific Information Service, Ottawa (Ontario). (Ontario).
AD-A0215361 DSIS-TN-75-3 760100 p. 19 refs 0 In: EN (English) Avail.: NTIS p.2673

The concept of the Information Analysis Centre is developed, in which a group of customer-users is provided with reliable and timely information in a limited subject area. The conditions which justify an information analysis center, some of its characteristics, some of the steps in organizing a center and the services provided by it to its customers are discussed. The costs of operating the center in terms of the user requirements for its services are considered.

-92-

The PLASTEC indexing system: A consideration of possible adjustments required by the DDC program for service support to PLASTEC / Final Report
(AA)TOMPKINS, R. S. (T2961952)
Tracor Jitco, Inc., Rockville, Md. (T2961952)
AD-A0000311 TRACOR-JITCO-302-059-01 DAAA21-76-M-0238 751215 p. 57 refs 0
In: EN (English) Avail.: NTIS p.2129

The report examines the precoordinated system of indexing used by the Plastics Technical Evaluation Center PLASTEC to determine the present problems with the system as well as new requirements that would be forced onto the system as a result of the conversion to computerized service and support by the Defense Documentation Center DDC. Recommendations made for the improvement of PLASTEC indexing are: 1) improved management of indexing operations, 2) the production of an interim controlled vocabulary list, and 3) the creation of a microthesaurus of plastics terms.

-93-

Design concepts for a national network of transportation research information services (TRISNET) / Final Report, Jul. 1974 - Jul. 1975
Transportation Research Board, Washington, D.C. (T4417249)
PB-245311/6I DOT-TST-76-39 DOT-OS-40022 750700 p. 86 In: EN (English)
Avail.: NTIS HC 65.00 p.1062

A coordinated network of libraries, document repositories, abstracting and indexing services and other types of information centers (TRISNET) that provide information services to users of transportation research information is discussed. The purpose of TRISNET is to provide optimum access to needed information through the cooperative efforts of existing services and new services that are needed for completing the network. Expected benefits to users include easier and more economic access to the full range of transportation, research information via TRISNET services and products, and faster and more reliable response to inquiries and requests.

-94-

The impact of the implementation of an on-line literature searching program in a research laboratory environment / Final Report, 1 Dec. 1972 - 30 Jun. 1974
(AA)MARCH, J. F. ; (AB)SCHEFFLER, F. L.
Dayton Univ., Ohio. (DE333333) A1316308
AD-A004301I UDRI-TR-74-421 AFML-TR-74-212 F33615-71-C-10691 AF PROJ. 7381
740600 p. 74 refs 0 In: EN (English) Avail.: NTIS p.2331

The work described in this report covers two aspects: the general operations and nature of the Materials Documentation Center (MDC) of the Air Force Materials Laboratory (AFML) and the impact of introducing an on-line literature searching capability on the behavior of professional personnel within the Air Force Materials Laboratory. A brief description of the Materials Documentation Center is given followed by considerations leading to the decision to provide on-line literature searching services to personnel in the Air Force Materials Laboratory.

-95-

Defense Documentation Center referral data bank directory
(AA)COX, A. L.
Defense Documentation Center, Alexandria, Va. (DK033945)
AD-A002001 DDC-TR-75-3 750700 p. 350 refs 0 In: EN (English) Avail.: NTIS p.2044

The revised directory of the information sources in the DDC Referral Data Bank (the 5th edition) consists of a compilation of computer printouts, each of which gives for a single activity detailed descriptive information on the mission, scope and services provided. Arrangement is alphabetical, with indexes by director/contact and by subject. A list of Department of Defense Information Analysis Centers is included.

-96-

Analysis and programming of an automated catalog of scientific and technical libraries and documentation centers / Final Report
Analyse et programmation d'un systeme automatise de catalogue collectif des bibliotheques et centres de documentation dans les domaines scientifiques et techniques
(AA)BOISSET, M.
Bibliotheque Nationale, Paris (France). (BO673350) Bureau pour

l'Automatisation des Bibliotheques.
DGRST-73-7-1170 740500 p.2043
$8.75

The organization of data bases and software, programming of subsystems, information networks and computer systems, national and international bibliographic data acquisition, and online questioning are discussed. A sources file location is projected. Software is laid down in detail.

-97-

On-line networking between information centres in Europe
(AA)AUDSLEY, D. M.
European Space Research Organization, Frascati (Italy). (E7041266) Space Documentation Service.
In: AGARD Natl. and Intern. Networks of Libraries, Doc. and Inform. Centres
12 p (SEE N75-23372 14-82) 750300 p. 12 refs 0 In: EN (English) p.1737

Future trends in on-line networking for information retrieval purposes and the possibilities of collaboration between networks in Europe are examined. The technical aspects of major on-line networks are mentioned. The development of a special purpose distributed European-wide information network is postulated. The need for extremely close and detailed levels of European coordination during the development and implementation of such a network is anticipated. The possible uses of communications satellites, in particular EBRO projects, are mentioned.

-98-

Problems of a bibliographic network and documentation center in Belgium
les problemes de reseaux pour bibliotheques et centres de documentation en belgique
(AA)PIRON, P. A. (LP081035)
Liege Univ. (Belgium).
In: AGARD Natl. and Intern. Networks of Libraries, Doc. and Inform. Centres 6
p (SEE N75-23372 14-82) 750300 p. 6 refs 0 In FRENCH/ ENGLISH summary In:
AA (Mixed) p.1737

A Governmental committee on scientific policy has undertaken to promote the optimization of some library and documentation activities by networking. Three projects were outlined. Share cataloguing between scientific libraries (such as the Royal Library and Universities), union catalog of the same institutions, information retrieval from bibliographic data bases of international interest. Proposals were made for building up a wide network linking documentation centers throughout the country.

-99-

Organization and systematic utilization of a general catalog of scientific and technical libraries and documentation centers / Final Report
Organisation et l'exploitation systematique du catalogue collectif des bibliotheques et centres de documentation dans les domaines scientifique et techniques
(AA)DAGRAND, B.
Bibliotheque Nationale, Paris (France). (BO673350) Bureau pour
l'Automatisation des Bibliotheques.
DGRST-72-7-0021 730500 p. 269 In: FR (French) Avail.: NTIS HC $8.50 p.1317

A preliminary study of an information system for French public libraries is outlined. A general catalogue is developed as the first step in library

automation. Existing computer networks are discussed, detailing data transmission, multiple access to files and security problem areas. Three systems, operational in the U.S.A., are analyzed.

-100-

A study of six university-based information systems
(AA)MARRON, B.I (AB)FONG, E.I (AC)FIFE, D. W.: (AD)RANKIN, K.
National Bureau of Standards, Washington, D.C. (NG36B3511 Inst. for
Computer Sciences and Technology
NBS-TN-781 p. 100 In: EN (English)

-101-

Concept, mission and operation of scientific and technical information analysis centers
(AA)MURDOCK, J. W.: (AB)SIMPSON, G. S., JR.
Battelle Memorial Inst., Columbus Ohio. (BE112895)
In AGARD SCI AND TECHNICAL INFORM. FEB. 1971 /SEE N71-23501 12-34/710200 p. 14

-102-

Coordinating records management and the special library for effectiveness
Daum, P.B.
ARMA Rec. Manage. Q. (USA), vol.20, no.2 p.36-8, 9 Refs, April 1986 , Coden:
RMGQA , Issn: 0191-1503

Records management and special librarianship have many similarities which have been reported in the literature for some time. Both disciplines serve to supply organization with timely information required for the knowledge worker and for management decisions. The author, who is the Information Coordinator at The MCElhanney Group Ltd. responsible for both records management and the special library, shows how projects including a job data base, file classification, and records retention schedules have involved skills common to both disciplines such as cataloguing, classifying, research and analysis, and a service orientation

-103-

The information center-potential solution to the office automation dilemma
Lokey, C.G.
Proceedings of the Office Automation Society International (OASI) Conference and Workshop for Office Professionals . Bloomington, MN, USA 3-6 Sept. 1985
p.2-12, 0 Refs, 1985

Giant steps have been taken in attempting to resolve the systems development dilemma. Their imprints have been made primarily as a result of the introduction of microcomputers and the initiation of the information center. The availability of microcomputers has provided computer systems customers with greater technical capability and more control over their environment. The information center has provided a technical staff to assist customers in their selection and utilization of these devices. In effect, the center provides the assistance necessary for the transition process. It is not necessarily important whether the information center is established as an element of the information systems office. What is important is that separate responsibilities for it are established. Its personnel should not become involved with overall systems development processes. This burden would negate the information center's value as a positive force in resolving office automation problems

-104-

The birth of an information center [hospital]
Murray, B.M.
Children's Hospital, Columbus, OH, USA
Proceedings of the Ninth Annual Symposium on Computer Applications in Medical
Care (Cat. No.85CH2227-7) . Baltimore, MD, USA 10-13 Nov. 1985 p.395-9, 6
IEEE Comput. Soc. Press. Washington, DC, USA
, xix+9,3
, Std Book No.0 8186 0647 9
Ackerman, M.J.

Reviews the events that led to the formation of an Information Center
Department at Columbus Children's Hospital. The topics covered include the forces that provided the motivation for the information center, a brief discussion of the information center concept and its history, and a review of the challenges encountered during the early months of the new department. The issues should be of interest to any administrator or manager considering the formation of a similar support group

-105-

How does IBM see the info centre
Weichert, R.F.
IBM Europe, Paris, France
Proceedings of SEAS Anniversary Meeting 1985: User Friendly Computing
Zurich, Switzerland 23-27 Sept. 1985 p.981-93 vol.2, 0 Refs, 1985
SHARE Eur. Assoc.. Nijmegen, Netherlands
, 2 vol.xiii+1381

The author outlines, in note form, how IBM views the information centre. The account is based on experiences at the IBM Europe installation

-106-

Information systems research centers: an initial survey
Amoroso, D.L.: Carr, H.H.: Cheney, P.H.: Mann, R.
Dept. of Manage., Georgia Univ., Athens, GA, USA
Inf. & Manage. (Netherlands), vol.9, no.3 p.153-68, 17 Refs, Oct. 1985 ,
Codeni IMAND , Issn: 0378-7206

The concept of the information systems research center (ISRC) is not new, yet its purpose, structure and activities are not universally agreed upon. This paper compares ten centers in the USA looking at their objectives, organizational structure, curriculum, current research areas, and activities. The ISRCs are then examined in an attempt to assess benefits and problems

-107-

The PC challenge: ICM
Gylling, N.
Superfos Data a/s, Vedbaek, Denmark
Proceedings of the SEAS Spring Meeting 1985 . Veldhoven, Netherlands 15-19
April 1985 p.245-52, 0 Refs, 1985
SEAS. Nijmegen, Netherlands
, xvii+682

Superfos Data has implemented ICM, the Information Center Menu interface, for
VM/CMS and used it with great success. ICM provides an easy access to a number

of infocenter products such as DCF, ICU and IC/1. One of the major advantages of ICM is the possibility to alter/alter the product to meet local requirements. By developing a PC file transfer utility the company has integrated the PC into the ICM environment, using the ICM facilities such as document filing and the host as a PC backup

-110-

Setting up a user help desk
Wallis, S. St J.
IBM Europe, Paris, France
Proceedings of the SEAS Spring Meeting 1985 . Veldhoven, Netherlands 15-19 April 1985 p.65-9, 0 Refs, 1985
SEAS, Nijmegen, Netherlands
, xviii-682

Over the last five years, the author has seen his firm's user help desk grow from one person to now a 6 to 9 member group. With the objective of everyone-with-a-terminal, the task becomes an even greater one to fill, and, with the help of functional groups, the help desk should be seeing directions going further than everyone-a-terminal, but everyone proficient in several products accessible from the terminal

-109-

Infocenter: a contagious disease
Brethes, J.-P.
Data Processing: Opportunities and Drawbacks. Proceedings of Convention Informatique 1985 . Paris, France 16-20 Sept. 1985 p.450-4 vol.A, 0 Refs,
1985
. In French
Convention Inf., Paris, France
, 2 vol. (viii+501+481)
, Std Book No.2 902574 18 5

The infocenter is a healthy disease which many users would like to catch. After describing how to inoculate the virus, the author details the main actions which will help in developing the disease: support, documentation, training, software, information, and the machine itself. The following questions are asked: is the infocenter sounding the knell of research work? He replies to these questions by sounding the knell of the infocenter? The question is raised as to when the epidemy is going to take place

-112-

Billing in a national inf center and configuration growth
Chaumont, J.C.
Centre Nat. Inf., Paris, France
Data Processing: Opportunities and Drawbacks. Proceedings of Convention Informatique 1985 . Paris, France 16-20 Sept. 1985 p.444-9 vol.A, 0 Refs,
1985
. In French
Convention Inf., Paris, France
, 2 vol. (viii+501+481)
, Std Book No.2 902574 18 5

The authors show that INSEE (Institut de la Statistique et des Etudes Economiques) is a special kind of information center: a 'national information center', with specific problems linked with its national size and its public status. They amplify difficulties of data processing resource management and

the evolution of configurations. To cope with these difficulties, the Institute is using a system of user management based on billing and budget allocation

-111-

Infocenter-one experiment among others
Pellet, V.
Data Processing: Opportunities and Drawbacks. Proceedings of Convention Informatique 1985 . Paris, France 16-20 Sept. 1985 p.432-6 vol.A, 0 Refs,
1985
. In French
Convention Inf., Paris, France
, 2 vol. (viii+501+481)
, Std Book No.2 902574 18 5

The author describes the evolution of the infocenter and its environment in the company since its creation in 1977. The infocenter developed with the commercialisation of new hardware and software tools on the market, and with the participation of the end-users in the implementation of these tools. This development took place in four stages: APL, end-users tools on the mainframe, microcomputers, and integrated software. The author tells of the accomplishments and problems during these four stages. He then presents the role of the infocenter in 1985. He discusses problems concerning the respective roles of users, the infocenter and the system development teams, and the relations between them

Approaches to end-user computing: service may spell success
Leitheiser, R.L.; Wetherbe, J.C.
Wisconsin Univ., Milwaukee, WI, USA
J. Inf. Syst. Manage. (USA), vol.3, no.1 p.9-14, 12 Refs, Winter 1986 ,
Coden: JISME, Issn: 0739-9014

The growth of end-user computing brings benefits and risks to organizations. The advantages and disadvantages of all techniques for providing end-user computing should be carefully evaluated before an approach is implemented. However, the service approach appears to provide the best combination of support and coordination. One implementation of this approach is an information center that is dedicated to supporting end-user computing and committed to meeting organizational requirements for information resource use and management

-113-

Understanding the information centre
Ruppel, E.F.
Can. Datasyst. (Canada), vol.17, no.12 p.38, 40, 0 Refs, Dec. 1985 , Coden: CNDSA, Issn: 0008-3364

The author claims that every company should have an information centre. He gives his reasons in this article

-114-

Organization and management of the information center
Sumner, M.
Southern Illinois Univ., Edwardsville, IL, USA
J. Syst. Manage. (USA), vol.36, no.11 p.10-15, 1 Refs, Nov. 1985 , Coden: JSYMA, Issn: 0022-4839

The challenge that information systems management must face is how to manage the growth of user-driven computing so that the business benefits are maximized. Policies must assure continued organizational learning and at the same time establish adequate controls. This article is based on a study of 21 St. Louis-based firms who organised their information centers to support end-user computing. The major findings of this study include the responsibilities of information center professionals, resources to support end-user computing, the nature of user-developed applications and policies relating to end-user application development

-115-

Information center success hinges on 10 important axioms
Kusnick, P.
Comput. Associates Int. Inc., Pasadena, CA, USA
Data Manage. (USA), vol.23, no.11 p.15-17, 8 Refs, Nov. 1985, Coden: DTA3B, Issn: 0148-5431

Information centers are not implemented overnight. Politically astute information processing executives must adhere to an integrated set of 10 axioms: management support, business function, microcomputer strategy, chargeback, education, staffing, tracking success, product evaluation, DP/end user relations and learning from experience

-116-

Clear-cut thinking, planning make information centers soar
Thomas, K.
JIA Manage. Group Inc., Santa Monica, CA, USA
Data Manage. (USA), vol.23, no.11 p.10, 12, 14, 8 Refs, Nov. 1985, Coden: DTA3B, Issn: 0148-5431

An information center can be powerful tool for the expansion of data processing into the user's work place. But creation of such a center requires the same kind of clear-cut thinking and project planning that any major expenditure requires. It must be need-driven and carefully managed. The author discusses how to justify and plan an information center

-117-

Why you should think about objectives
Kartem, N.
Kartem Associates, Randolph, MA, USA
Can. Datasyst. (Canada), vol.17, no.9 p.88-9, 8 Refs, Sept. 1985, Coden: CNDSR, Issn: 0008-3364

Companies planning information centres today have an advantage over those already in operation. They can learn from past experiences and mistakes. This article tells what you should know before starting your IC

-118-

Information activity of an enterprise and the Centre of Scientific, Technical and Economic Information
Matousek, M.; Vavrouch, J.
UVTEI, Praha, Czechoslovakia
Cesk. Inf. Teor. & Praxe (Czechoslovakia), vol.27, no.7-8 p.215-17, 3 Refs, 1985, Coden: CITPB, Issn: 8322-8589. In Czech

Attempts to define the activities of specialist centres for records management and information management at various levels of the Czechoslovak economic structure. Special attention is paid to the lowest level i.e. national enterprises, where these centres are as yet not fully formalized. Recommendations concerning the activities and organizational structure of centres at that level are made. The paper also provides some insight into the organization of information management in Czechoslovakia as a whole

-119-

Information centres for manufacturers
Rae, S.B.
Bus. Software Rev. (USA), vol.5, no.3 p.49-50, 8 Refs, March 1986, Coden: BSREE, Issn: 8750-1368

Information centers (ICs) offer manufacturers the chance to give computer literacy, greater job productivity and more useful information to the end users in their organization. But what is an information center and how can manufacturers use one? Computer Intelligence defines the information center concept as 'a function within the computer site whose role is to support end-user computing'. This function can be administered in a number of ways. There may be an actual physical site within the company where end users can go for training and troubleshooting. Conversely, the IC may be a network of personnel scattered throughout the organization

-120-

The Information Centre
Chevreau, J.
Off. Equip. & Methods (Canada), vol.31, no.7 p.39-42, 8 Refs, Sept. 1985, Coden: OFEMA, Issn: 0709-3228
Treatment: GENERAL

Helping users help themselves is the central premise of the information Centre, a concept developed by IBM Canada in the mid 1970s, and now sweeping large corporations throughout North America and Europe. The names change with the country. In Europe, it's called the Extended Information Centre. In the United States, the Workstation Resource Centre. But in all cases, the concepts are the same, and fairly simple. The Information Centre puts a terminal, and more recently, personal computers with communications capability into the hands of the user. Easy-to-use software tools and English-like query languages make it possible for non-DP staff to make their requests directly, and to get answers in hours or days, not months or years

-121-

Information center: a survey of services, decisions, problems, and successes
Wetherbe, J.C.; Leithelser, R.L.
Minnesota Univ., Minneapolis, MN, USA
J. Inf. Syst. Manage. (USA), vol.2, no.3 p.3-10, 6 Refs, Summer 1985, Coden: JISME, Issn: 0733-9814

As end-user computing becomes increasingly important in all kinds of businesses, many organizations are responding by installing information centers. This study, based on a survey of 25 diverse organizations within a large metropolitan area, investigates the services, user decisions, problems, and successes of their information centers. The results should prove useful to information center managers and MIS executives attempting to cope with the growth of end-user computing in their organizations

-122-

Keeping data centers on track
Mullen, J.M.
Peat, Marwick & Mitchell, Houston, TX, USA
Comput. Decis. (USA), vol.17, no.7 p.38, 44, 46, 50, 9 April 1985
, Codeni CODCB , Issn: 0010-4558

Data-center managers face the same organisational and administrative
challenges as other business executives. The problems inherent in receiving,
processing, and delivering information are similar to those that confront
warehouse managers, but data-center managers must also cope with frequent
changes in the work they supervise and how it must be performed. The author
discusses how to manage a data center

-123-

Keep the customer happy [information centres]
PC Manage. (GB) p.23-4, 0 Refs, March 1985 , Codeni PCMAE

Some major problems are identified confronting the information centre and a
flexible approach to dealing with them is proposed, different strategies being
applied at each of the four stages in the general learning curve. The major
problems are provision of support and education, hardware/software standards,
data management standards and justification of usage. This article considers
management strategies that are appropriate in the first two stages of the
growth of the information centre

-124-

Remedy for growing pains [information centre]
PC Manage. (GB) p.25-8, 0 Refs, May 1985 , Codeni PCMAE

The article looks at management strategies that are appropriate once the
initial stages of an information centre have produced rapid growth. The
requirements of information centre management change in a predictable way that
allows a set of successive, coherent strategies to be used; there is a single
strategy appropriate to each stage in the development of the information
centre, the stages being defined according to the Nolan model often used for
mainstream DP; initiation, contagion, control, and maturity

-125-

The information center: one approach to data security
Odney, W.M.
Computerworld (USA), vol.19, no.17 p.SR/36-8, 0 Refs, 29 April 1985 , Codeni
CMPWA , Issn: 0010-4841

One approach used in many corporation: to deal with the issue of
microcomputer security is the development of an information center. The purpose
of the information center is to make data readily available to the users. The
information center provides an appropriate focus for user information
processing. One of its primary responsibilities is to centralize the purchase
of both microcomputer hardware and software. Standard policies, acquisition
procedures and software/hardware support should also be provided

-126-

Producing applications and services by the information centre
McKee, T.
IBM UK Ltd., Portsmouth Inf. Centre, England
Proceedings of the SEAS Anniversary Meeting 1984. Distributed Intelligence
Garmisch-Partenkirchen, Germany 24-28 Sept. 1984 p.821-7 vol.2, 0 Refs, 1984
SEAS. Nijmegen, Netherlands
, 2 vol. x+827

Describes the Information Centre VM, some of the philosophies they have about
user management and support, defines some terminology, describes the challenges
of service development, and mentions some of the applications that have been
developed for their users

-127-

The information center's critical post-start up phase
Vaccaa, J.R.
J. Inf. Syst. Manage. (USA), vol.2, no.2 p.50-6, 14 Refs, Spring 1985 ,
Codeni JISWE , Issn: 0739-9014

Once the information center has been successfully established, its services
can be expanded and its number of users increased. This article describes how
the information center can provide users with an increasingly wide range of
support services and offers guidelines on their controlled implementation

-128-

A class of service [information center]
Morley, J.
Superior Oil, Houston, TX, USA
Infosystems (USA), vol.32, no.1 p.72, 74, 0 Refs, Jan. 1985 , Codeni IFSYA ,
Issn: 0364-5533

Superior Oil believe that information processing is too important to be left
to a data processing or management information systems department. The author
describes their information center, which provides an effective vehicle for
front-ending the MIS department, making it more accessible to end users, and
more responsive to their needs

-129-

The Information Centre and Changing Technologies. Proceedings of the 1984 APL
Users Meeting
The Information Centre and Changing Technologies. Proceedings of the 1984 APL
Users Meeting. Toronto, Ont., Canada 15-17 Oct. 1984, 1984
I.P. Sharp Associates. Toronto, Ont., Canada
, 214
, Std Book No.0 86493 098 4

The following topics were dealt with: global information centre
implementation; user productivity tools evaluation and implementation; managing
the information revolution; international systems management and
implementation, the human factors; management tools for the information centre;
LOGOS, on APL programming environment; the SHARP APL environment; exploiting
networks

-130-
Today's information center tomorrow
Gamble Rae, S.
ICP Bus. Software Rev. (USA), vol.3, no.1 p.25, 0 Refs, Feb.-March 1984 ,
Coden: IBSRE , Issn: 0744-2602

Christened a decade ago by IBM, the information center began as a method for providing users with access to tools which they could use to ease the programming burden on the data processing department. The cost of information center-supported microcomputers, surprisingly, with that of desktop microcomputers, surprisingly. The establishment of such a center also allows a company to save program development costs because the center can serve as a clearing-house for information about problems and solutions in unconnected parts of the company

-131-
The nucleus of productivity
O'Hare, J.
ICP Bus. Software Rev. (USA), vol.3, no.5 p.53, 56-7, 60, 0 Refs, Aug.-Sept. 1984 , Coden: IBSRE , Issn: 0744-2602

As provider of training, education, support, coordination and consultation, information centers have become an indispensable competitive corporate tool, but often there are political hurdles to clear before the productivity gains are realized

-132-
Some management tools for the information centre
Apsit, W.
I.P. Sharp Associates, Toronto, Ont., Canada
The Information Centre and Changing Technologies. Proceedings of the 1984 APL Users Meeting . Toronto, Ont., Canada 15-17 Oct. 1984 p.131-71, 3 Refs, 1984
I.P. Sharp Associates. Toronto, Ont., Canada
, 214
, Std Book No.0 86493 098 4

This paper discusses the Information Centre in terms of the problem it solves-the incompatibility between the traditional computing centre and non-traditional end users. These users are the ones requiring 'immediate response' who have 'once-off' jobs, and whose specifications often never freeze. It views the Information Centre as directly supporting these users and looks at an environment that includes not only personal computer use, but also use of a central computing centre, communications network, and nonlocal databases. It offers tools, broadly-defined, which an Information Centre manager may find useful in this environment

-133-
Implementing a global information centre
Iverson, E.B.
I.P. Sharp Associates, Toronto, Ont., Canada
The Information Centre and Changing Technologies. Proceedings of the 1984 APL Users Meeting . Toronto, Ont., Canada 15-17 Oct. 1984 p.15-25, 1 Refs, 1984
I.P. Sharp Associates. Toronto, Ont., Canada
, 214
, Std Book No.0 86493 098 4

This paper is addressed to the information processing manager, but is relevant to anyone interested in the problems of interfacing and integrating diverse information processing technologies. This paper explains the Global Information Centre concept and shows how to apply the concept to an organization

-134-
Integrating microcomputers and the information professional: strategies for training information managers to use the PC
Pritcher, P.N.
Bell Commun. Res., Livingston, NJ, USA
Online (USA), vol.9, no.2 p.15-22, 0 Refs, March 1985 , Coden: ONLID , Issn: 0146-5422

Reviews how personal computers were introduced into the Information Research Center at Bell Communications Research Inc., and how training was conducted to help integrate the personal computer into each manager's unique work style. It also provides some guidance and advice for others who are purchasing personal computers for their information centers. To conclude it addresses the challenges and opportunities for the information professionals in introducing the personal computer into their organizations

-135-
Information centers: power to the people
Kull, D.
Comput. Decis. (USA), vol.16, no.7 p.98-113, 210-12, 0 Refs, June 1984 ,
Coden CODCB , Issn: 0010-4358

Employees suffering information-age distress find help in many organizations these days at the other end of a phone call. Hot lines staffed by experts in personal computing, data processing, and communications dispense first aid for minor bugs, advice on how to gain better control of data and word processors, and guidance toward long-term relief of the feeling among users that they should be getting more from their technology. These services are part of, and help define, information centers in corporations across the country. More and more organizations are establishing groups to help their employees make the most of information technology. Many, adopting an IBM term, call these operations information centers, while others coin their own names. The centers may differ in the services and facilities they offer-indeed, a center may not be a place at all, but only a box on an organizational chart or a responsibility detailed in a job description. But information centers all have the fast, convenient characteristics of the hot line, and they all endeavor to empower users

-136-
DA's new nucleus [office automation]
Lawson, S.
Data Process Div., Indianapolis, IN, USA
Manage. World (USA), vol.13, no.6 p.30-2, 0 Refs, July 1984 , Coden: MAWOE ,
Issn: 0090-3825

A new concept has emerged in office automation. Now, instead of using the data processing department to gain information, managers can go to an information center and obtain information on their own terms. By providing necessary computer hardware, software and personnel, information centers allow managers to access data themselves to solve business problems

-137-
Database-the technical heart of an information center
Kalogeras, G.
J. Syst. Manage. (USA), vol.35, no.11 p.36-8, 0 Refs, Nov. 1984, Coden: JSYMA, Issn: 0022-6839

The evolutionary stages of a data processing operation lead it to a database system. In the information center, the emphasis in training and programming shifts from the MIS department to the community of users. User participation and needs analysis, integration of the information center into the overall corporate plan, top management support for the information center, and center personnel with strong technical and interpersonal skills are all keys to the success of the information center concept. However, the technical heart of the information center is the database and its manager

-138-
The information resource center-a strategy for end user support
Winkler, S.
4th Jerusalem Conference on Information Technology (JCIT). Next Decade in Information Technology (Cat. No. 84CH2022-2). Jerusalem, Israel 21-25 May 1984 p.504-10, 5 Refs, 1984, CCCC: CH2022-2/84/0000-0504$01.00
IEEE Comput. Soc. Press. Silver Spring, MD, USA
, xii+720
. Std Book No.0 8186 0535 9
IEEE, Inf. Process. Assoc. Israel, ACM, Canadian Inf. Process. Soc

The author describes the origin, explains the concept, and discusses the organization and implementation of an information resource center that meets these requirements

-139-
Information centers: solution or problem?
Karten, N.
Karten Associates, Randolph, MA, USA
Computerworld (USA) vol.18, no.49A p.37-40, 0 Refs, 5 Dec. 1984, Coden: CMPWA, Issn: 0010-4841

While information centers are busily attending to users' micro needs, programmers are feeling their security being pulled out from under them by rampant end-user computerism. At the same time they are becoming an increasingly potent user tool, personal computers seem to be accentuating the rift between users and data processing. Information centers could help solve the problem by expanding to support both users and DP staff

-140-
Give and take: managing corporate data
Mortenson, P.K.
Best's Rev. Life/Health Insur. Ed. (USA), vol.85, no.8 p.64-72, 0 Refs, Dec. 1984, Coden: BRLHB, Issn: 0005-9706

The information centre concept offers the best long range solution to two corporate needs-the need to protect information and the need to distribute information more efficiently. The information centre doesn't fail-it stagnates. The information centre need not be for big companies only. It is not a place, or a collection of hardware. The information centre is a major interface

between data processing and the operational departments. It should be a catalyst for improvement in performance; it should be the driving source for office automation, and it should provide guidance to the corporation. While many insurance companies have implemented an information centre, if only as a pilot project, constraints of budget, personnel and security have prevented the information centre from evolving. In most companies, the information centre is merely a user training centre, not the prime distributor of corporate data. It is necessary, therefore, that all insurance companies develop a policy at the corporate level which ensures proper use of data. It should be determined whether the enforcement of this policy is to be the responsibility of the data processing department, the information centre staff, or the internal auditing division. In the age of the information centre and the microcomputer, failure to address the details of data management could be catastrophic

-141-
The coordination of decentralised data processing in a large organisation
Knapp, O.; Zweigle, T.
Fachhochschule, Nurtingen, Germany
Off. Manage. (Germany), vol.32, no.10 p.956, 958, 960-1, 11 Refs, Oct. 1984,
Coden: DFMAD, Issn: 0343-2319
. In German

The expertise required to keep a distributed data processing system running smoothly can well be located in an information centre. This paper describes the organisation and functions of such a centre

-142-
Planning the corporate information center
Beach, L.
Inf. Manage. (USA), vol.18, no.6 p.16-17, 44, 0 Refs, June 1984, Coden: INMAE, Issn: 0019-9965

If information centers are to be successful without a backlash across organizational structures, proper planning must be done, prior to initiating any resources. The information center can be a valuable tool for information processing, both for the users and the company. Many problems that information centers face can be solved through effective planning and analysis

-143-
Building tools for an information centre
Pollard, C.
Comput. Mag. (GB) p.21, 0 Refs, 11 Oct. 1984

In end user terms, the problem for Grand Metropolitan Information Services (GMIS) was very simple. The increasingly volatile business environment created an information need that the existing data processing systems were unable to satisfy. Management was also getting more sophisticated in the use of information in the control of the business. This article looks at how GMIS found a solution to the problem by setting up an information centre along guidelines outlined by IBM

-144-
Seizing the information center opportunity
Burns, P.
Auerbach Publishers Inc., Pennsauken, NJ, USA

Infosystems (USA), vol.31, no.8 p.136-41, 0 Refs, Aug. 1984 , Coden: IFSYA , Issn: 6364-5533

The author discusses why the information center can lead to improved communications between the management information systems/data processing department and users. It changes the traditional nature of MIS/DP-user interaction, expediting user applications while allowing them to see firsthand what is actually involved in application development. The author looks at one approach to establishing an IC, with careful planning and a pilot project

-145-

Information center software
Atre, S.
Atre Inf. Consultants Inc., Rye, NY, USA
Computerworld (USA), vol.18, no.33A p.29-34, 0 Refs, 15 Aug. 1984 , Coden: CMPWA , Issn: 0010-4841

Selecting the best software for your information center is confusing, and finding out what's available is not easy. To be successful, the information center requires appropriate software on mainframe as well as on personal computers! as a result, the selection process is extremely challenging. This process will be successful only if strategic planning adequately considers the functions to be served and the applications to be run. Otherwise, the organization will end up with a hodgepodge of hardware and software products

that will be destined to failure. A well-defined corporate plan and utilization of the right hardware and software products is the only way the promise of the information center can be kept

-146-

The evolution of the information center
Guimaraes, T.
Datamation (USA), vol.30, no.11 p.127-30, 0 Refs, 15 July 1984 , Coden: DTMNA , Issn: 0011-6963

The evolution of the information center owes a lot to creationism. As is so often true in the DP world, IBM did the creating. Or, at least, the naming. The concept that became known as the information center first arose in the 1960s, but when IBM gave the idea a name in the 1970s, information centers took off. And the explosive growth of personal computing in American corporations since then, has made the information center a necessity. That's how the information center has evolved so far. The author also describes the shape the information center must take in order to ensure that personal computing is a corporate computing asset

-147-

Decision support for the information centre
Kendall, G.
Comshare Ltd., Toronto, Canada
Can. Datasyst. (Canada), vol.16, no.5 p.65, 67, 0 Refs, May 1984 , Coden: CNDSA , Issn: 0008-3364

Selecting the wrong decision support systems (DSS) can be a million dollar mistake. The author presents some useful strategies for a successful DSS within an information center

-148-

Micro-power and place
Morrell, P.
Ind. Manage. + Data Syst. (GB) p.8-9, 0 Refs, March-April 1984 , Coden: IMDSD , Issn: 0007-5929

Looks at an integrated and company-wide decision support project and examines considerations such as the type of system to use, the characteristics it must exhibit and how to justify a substantial investment. The system is part of the information centre concept of data handling

-149-

Rapid access
Piper, D.B.
Pers. Comput. World (GB), vol.7, no.7 p.166, 0 Refs, July 1984 , Coden: PCWDD , Issn: 0142-0232

Many micro users, working in large data processing departments, wish they were more effective in solving the small, everyday problems encountered by the typical user department. The author suggests an in-house information centre to provide end users with the required personal computing facilities

-150-

The information center challenges and opportunities with public data
Belding, T.

National Online Meeting Proceedings - 1984 . New York, USA 10-12 April 1984 p.15-18, 0 Refs, 1984
Learned Information. Medford, NJ, USA
, x+484
, Std Book No.0 938734 07 5

The author interviewed ten large commercial organizations in search of the 'Information Center' and what role it plays vis-a-vis public information. Few organizations had an IC as typically conceived as a DP extension service, but nearly all had one or more specific departments involved as intermediaries between external information suppliers and end users. These groups were the library, application support, and DP/IC (this last group including time sharing coordinators and, or a micro support group). This article explains the methods of information provision in large organisation, and, in particular, how public data is handled

-151-

Information management: what's in store for the professional and the information center
Borbely, J.
Online (USA), vol.8, no.3 p.13-23, 0 Refs, May 1984 , Coden: ONLID , Issn: 0146-5422

Change, significant change at that, is the order of the day in the information profession. Surely there is not a practising information professional who is not at least moderately attuned to the significant technological changes taking place in the world. Operating in this new environment, information managers should assess the performance of the functions of information specialist, personnel manager and marketing specialist. Much of this assessment will derive from both direct and indirect user feedback concerning the services and capabilities of organizations

-152-
The information centre: a beacon in the darkness
Jones, P.
Computing (GB) p.28-9, 0 Refs, 31 May 1984 , Coden: CPTGB , Issn: 0144-3097

The concept of the information centre was originally credited to IBM. The author looks at ways in which the idea could aid relations between users and DP departments

-153-
Automation of informatics centres
Riviere, A.
Inf. & Gestion (France), no.140 p.37-45, 0 Refs, March 1983 , Coden: IFQBA , Issn: 0020-862X
. In French

The operation and management of data centres can and should be subjected to the same procedures of automation as are applied to the data themselves. The objectives should be to run in the same way regardless of workload, i.e. to be able to expand activity without organisational changes; to eliminate manual operations; to make job processing completely automatic; to improve reliability and security; to improve service; and to improve working conditions

-154-
Evolution of data centres
Colson, R.
Inf. & Gestion (France), no.140 p.19-23, 0 Refs, March 1983 , Coden: IFQBA , Issn: 0020-862X
. In French

In view of the increasingly pressing demands of users for a prompt information service, and the falling costs of computing equipment, large organisations must plan to install a hierarchy of data centres, with a central system for the whole organisation and personal computers for individual users with specific tasks

-155-
Software: what lies ahead
Snyders, J.
Comput. Decis. (USA), vol.15, no.12 p.212-16, 220-2, 226, 0 Refs, Nov. 1983 , Coden: CODCB , Issn: 001L-4558

The biggest news in packaged software is the advances in information-center software. Micro-mainframe connectors, particularly those for IBM machines, made the biggest splash. Improved packages integrating several functions, and application generators and non-procedural languages were also important. Corporations need to unify their new, small information-processing resources and their established data-processing centers. Some corporations are looking at micros as the ideal way to distribute data processing

-156-
No integrated information processing without an 'information centre'
Gehrig, B.
IBM, Zurich, Switzerland

Sysdata (Switzerland), vol.15, no.5 p.IX-XII, 0 Refs, 8 May 1984 , Coden: SYBDD, Issn: 0254-2226
. In German

The proliferation of small computers in companies can lead to adverse effects. The paper presents a proposal for a structured central function which caters for the needs of special data processing requirements of managers and other staff, making use of the centralised data banks and ensuring centralised planning and acquisition of resources of all kinds. Informative diagrams are included. The point is strongly made, that without such a formalised approach, insular solutions by individual departments or members of staff can be detrimental to the whole business

-157-
With a successful info center, thou shalt be rewarded
Data Manage. (USA), vol.22, no.2 p.35, 0 Refs, Feb. 1984 , Coden: DTAMB ,
Issn: 0148-5431

Successfully implementing an information center can bring many added benefits to the information processing manager and his or her department. Information centers enable information processing managers to make the most productive use of professional staff, since end users will now be responding to their own ad hoc information needs via the center

-158-
In info centers, the user always comes first
Morse, J.; Chait, L.
Data Manage. (USA), vol.22, no.2 p.30-1, 0 Refs, Feb. 1984 , Coden: DTAMB ,
Issn: 0148-5431

When developing and implementing an information center, DP managers must always remember to see things through the eyes of the end user. A successful information center requires more than just a collection of terminals and software packages. The successful information center is truly 'user friendly'

-159-
Implementation demands a personal approach [information centers]
Dickie, R.J.
Data Manage. (USA), vol.22, no.2 p.28-9, 0 Refs, Feb. 1984 , Coden: DTAMB ,
Issn: 0148-5431

A personalized touch always makes a difference. It can make the difference in an information center too, if DP and end user departments work together and take a personal approach to implementation. There are six important areas that must be given equal consideration by both parties: The current information processing direction, hardware/software selection, user training/education, installation and maintenance, on-going consulting and security

-160-
Info center success 'centers' around the DP manager
Bracy, M.
Data Manage. (USA), vol.22, no.2 p.26-7, 0 Refs, Feb. 1984 , Coden: DTAMB ,
Issn: 0148-5431

One person must take command and play a pivotal role with an information center. The DP manager plays the crucial role of initiating the information

center function, as well as providing ongoing assistance and support. If the DP manager does not commit his or her full support, the information center will ultimately fail, and the 'team' will lose

-161-

Strategic planning generates potent power for info centers
Mills, C.R.
Data Manage. (USA), vol.22, no.2 p.23-5, 0 Refs, Feb. 1984 , Coden: DTAMB , Issn: 0148-5431

Strategic planning generates success for information centers. Without strategic planning and analysis, the real potential of an information center cannot be achieved. To reach this potential, both end users and information managers must allocate time and resources to plan and analyze an information center strategy

-162-

The 'I center'-an office resource comes of age
Cowan, W.M.
Off. Adm. & Autom. (USA), vol.45, no.2 p.30-2, 51, 0 Refs, Feb. 1984 , Coden: OAAUD , Issn: 0745-4325

The in-house information center offers a number of advantages, whether it's alleviating overloads in the data processing department or solving individual problems. Some managers or administrators prefer the centers rather than the 'hodgepodge' of hardware and software collected by many corporations. Others, of course, see the information centers as diminishing the DP department's control and causing much confusion as independent users rely on their own databases rather than the company's central database to direct corporate strategies and tactics. However, a substantial number of corporations that have used information centers for time frames ranging from one year to 12 report

some impressive results

-163-

The information cycle
Venkatakrishnan, V.
Datamation (USA), vol.29, no.9 p.175-80, 0 Refs, Sept. 1983 , Coden: DTMNA , Issn: 0011-6963

The problems information centres are intended to address remain unsolved primarily because of the ineffective way in which they are approached, not for lack of good software and hardware tools. Several solutions have been offered-low range planning, business systems planning (BSP) and information resource management (IRM). IRM is the discipline of comprehensively managing an enterprise's information requirements, using contemporary technology in the most profitable way. IRM has five distinct but interdependent management functions-human resources, planning, data, applications, and networks. An important tool in contemporary application development is the interactive application generator, which enables a terminal operator to define a complete on-line application without any need to resort to batch techniques or to define data redundantly

-164-

Developing an information center at RAYOVAC
Murray, J.P.

Data Manage. (USA), vol.21, no.1 p.20-5, 0 Refs, Jan. 1983 , Coden: DTAMB , Issn: 0148-5431

The concept of an 'Information Center' is not new or revolutionary. The approach of moving the power and storage capacity of large mainframes to end users while circumventing some of the delay and 'red tape' of the MIS department has been applied successfully for some time. A review of the implementation of an Information Center at RAYOVAC Corp. is presented. The problems faced are described

-165-

Organisation and management (information centre)
Leitch, D.M.
Ci. Library, John Rylands Univ. Library of Manchester, Manchester, England
Manual of documentation practices applicable to defence-aerospace scientific and technical information. Vol.IV p.33-92, 12 Refs, March 1981
, Rep No. AGARD-AG-235-Vol.IV AGARD, Neuilly sur Seine, France

The establishment of a technical information centre and its aims and objectives are discussed. The identification and fulfilment of user requirements are shown to be vital to its success and the way in which these can be achieved by good management is emphasized. Careful planning is essential at all stages and many aspects of planning are described. The role of the staff, in particular that of the information manager, is defined and the effectiveness of the information centre is shown to be highly dependent on their contribution to it. Budget management and stock control are discussed and the impact of mechanization is considered. Active promotion of the centre's services is necessary and ways of achieving this are outlined

-166-

Security storage and control (information centre)
Sims, M.G.

Manual of documentation practices applicable to defence-aerospace scientific and technical information. Vol.IV p.1-32, 32 Refs, March 1981
, Rep No. AGARD-AG-235-Vol.IV AGARD, Neuilly sur Seine, France

Describes the organization and administration of the security arrangements in a Documentation Centre and discusses the problems raised by the need for both physical and personnel security. Document security requirements are considered for the publication stage, through to issuing, dissemination, release, filing, storage, handling, circulation control, downgrading and final disposal. The differing requirements for security of items in various formats are discussed, and the protection required in peripheral areas such as reprographic and computer rooms are also considered

-167-

DOMESTIC: a minicomputer based information storage and retrieval system
Omer, Y.; Kuflic, M.; Kozarinsky, M.; Branse, J.; Harmon, L.; Keren, C.
Nat. Center of Sci. & Technol. Information, Tel Aviv, Israel
J. Inf. Sci. Princ. & Pract. (Netherlands), vol.3, no.2 p.59-74, 7 Refs, April 1981 , Coden: JISCD

DOMESTIC (Development of Minicomputers in an Environment of Scientific and Technological Information Centers) is a joint Israeli-German project for the application of minicomputers in information storage and retrieval. The DOMESTIC software package includes functions for online creation and updating of inhouse databases; assimilation of external databases; setting up, running and

reformulating online database searches; viewing search results; printing the output in selected formats; and various tasks associated with the acquisition, cataloging and circulation phases of information-center activities. At present (June 1980) the DOMESTIC database management system and the information-retrieval functions have been programmed and development is underway on the functions for online input, database maintenance, the print generator and library management

-168-

The role of specialized information services in development
Monge, F.
Sci. Information Exchange Unit, Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia
International Cooperative Information Systems . Vienna, Austria 9-13 July 1979 p.68-75, 12 Refs, 1980
Internat. Development Res. Centre. Ottawa, Canada
. 111

Two ideotypes in a centralization-decentralization continuum can be identified: the great monolithic centre that tries to collect, systematize, and deliver practically everything produced in a broad field of knowledge and, more recently, the decentralized network including highly specialized information centres that offer a wide spectrum of services and are linked together by fast and efficient communications means. This paper illustrates the latter. The description shows that specialized information centres linked closely to research centres of excellence in a given commodity have a major role in promoting development not only as mere providers of needed information for research activities but also as means of building the basic human infrastructure in countries. The latter role permits scientific communities to behave as systems and not as unconnected and disorganized groups of elements

-169-

Records and information center
Clausen, N.M.
Ind. Res./Dev. (USA), vol.20, no.9 p.164-7, 2 Refs, Sept. 1978 , Coden: irded

The author draws attention to the diversity of information obtainable from industrial libraries and information networks. She examines the Borg-Warner R&D library and staff which probably are similar to those of most medium-sized R&D libraries

-170-

The IAEA energy and economic data bank
Charpentier, J.-P.; Russell, J.E.
IAEA, Vienna, Austria
Int. At. Energy Agency Bull. (Austria), vol.20, no.2 p.2-12, 0 Refs, April 1978 , Coden: iaeba

Describes the computerised energy and economic data bank set up by the IAEA in 1976 with the object of providing the energy and related economic data needed for long term planning. Topic headings include: organisation of the data bank; services supplied by the data bank

-171-

Definition and implementation of a system for optimal relation between an information database and its customers

Guerault, J.C.
Inf. & Gestion (France), no.95 p.60-4, 0 Refs, April 1978 , Coden: ifgqa
. In French

The author presents results of investigations with the aim to improve significantly the relation between suppliers of data banks and particular users. A new system of conducting initial negotiations is offered here which is systematic yet sufficiently flexible to adapt to different circumstances and needs

-172-

The Industrial Special Library Universe-a 'base line' study of its extent and characteristics
Jackson, E.B.; Jackson, R.L.
Univ. of Texas, Austin, TX, USA
J. Am. Soc. Inf. Sci. (USA), vol.28, no.3 p.135-52, 12 Refs, May 1977 ,

The 'heart' of the industrial technical library universe is encompassed in the library systems of 311 of FORTUNE'S '500' corporations. Of the 30+ variables used to delineate these 311 systems, the number of professional librarians, libraries, and corporations were most important. A 'Library Penetration' ratio was evolved from the three measures. To meet the budget-setting need for cross-industry comparison, FORTUNE'S 29 industry classifications were used, with chemicals and petroleum refining most important. Systems including overseas units, or internationally operating systems, were statistical leaders in every measure. Twenty-four pairs of measures were found to have a correlation (R) of 0.80 (or higher) with significance R of 0.00001. How the remaining 189 of FORTUNE's '500' operate without formal information services requires study

-173-

The contribution of the VEB robotron research and technology centre to the intensification of research and development activities
Merkel, G.; Schulz, M.
Zentrum fur Forschung und Tech., Dresden, Germany
Informatik (Germany), vol.24, no.2 p.9-10, 0 Refs, 1977 , Coden: iidwa
. In German

Problems encountered in scientific-technical information systems during intensification of research and development work in GDR are discussed. They include close and planned co-operation between information institutions and problem teams; the supply of compressed information for leading and planning problems, especially on the basis of computer-aided data processing; the intensification of the information processes by all-round and rational computer application and microfilming and other technical means, backed up by co-ordinated co-operation of the information institutions

-174-

Realization of staff potential
Layzell Ward, P.
Polytech. of North London, School of Librarianship, London, England
Aslib Proc. (GB), vol.28, no.11-12 p.376-84, 5 Refs, Nov.-Dec. 1976 , Coden: aslpa

Discusses realisation of staff potential within libraries and information systems with regard to the economy in the UK of 1976. Outlines methods of assessing staff potential and discusses programs for staff development which improve the general educational level and professional qualifications of the staff. Stresses the importance of job enrichment and of the social aspects of jobs

-175-

Contemporary problems in technical library and information center management:
a state of the art
, 1974
American Soc. Information Sci.. Washington, DC, USA
, vi+211
, Std Book No. 0 87715 187 5
Rees, A.

One of the major problems facing industrial information centers is that of
storing the voluminous masses of information and data needed by the scientists.
Microfilm is becoming the accepted medium for this storage. Through standard
indexing and retrieval practices, microfilm can be incorporated into
information systems to replace the document holdings. There are cost and time
savings through the elimination of space filling requirements and in search
time. Case histories of applications of microfilm-based systems are given
ztcaas

The papers published in this volume address realistic problems and issues
confronting library and information center management. The topics analysed fall
into a number of discernible categories: management, performance measures and
costing techniques; user studies; networking, library co-operation and
functional integration of technical and information analysis centers; and
innovative library and information services

-176-

A case study of continuing production planning and management of information
activities at an information centre
Savin, A.F.
Nauchno-Tekh. Inf. 1 (USSR), no.3 p.17-18, 0 Refs, 1975 , Codeni ntoma
ztcaas

The application of EDP to the solution of direction problems in libraries and
information institutions of universities
Dux, W.; Steuer, U.; Werner, I.
Univ. Dresden, Germany
Informatik (Germany), vol.21, no.3 p.17-21, 4 Refs, 1974 , Codeni iidea
. In German
ztcaas, mkzzag

-179-

Electronic data processing is used for rational storage, formal analysis and
effective supply of information useful for leading activities. General
information for leading personnel is received from central technical university
electronic data processing projects, whereas information specific to running
libraries is drawn from EDP projects serving library operations only. The
individual stages of the university library EDP project, i.e. 'Loan
Registration by EDP', 'Statistical Analysis' and 'Document Retrieval Data
Logger' are interlinked to form a unit

A system for planning and current management of information work in an
interdisciplinary regional information centre is described. The major
principles of system's operating are explained. Recommendation on introduction
of the system into other information service is given

-180-

An effectiveness measure for information center operations
Miller, E.P.
36th Annual Meeting of the American Society for Information Science. vol.X
Los Angeles, Calif., USA 21-25 Oct. 1973 p.151-2, 8 Refs, 1974
American Soc. Information Sci.. Washington, D.C., USA
, xii + 247
ztcaas, ztraar
, Std Book No. 0 87715 410 4
Waldron, H.J.; Long, F.R.

-177-

The management of libraries and information centers
Buckland, M.K.
Purdue Univ., Lafayette, Ind., USA
Annual review of information science and technology. vol.9 p.335-79, 222 Refs
, 1974
American Soc. Information Sci.. Washington, D.C., USA
ztcaas
, Std Book No. 0 87715 209 8
Cuadra, C.A.

Reviews the literature on the management of libraries and information
centering primarily in terms of a functional or problem orientation, rather
than in terms of a technique orientation. Most of the review is devoted to two
broad areas of management concern. The first covers studies of the political,
economic, cultural, legal, and other aspects of the library's environment and
of its mission, goals, and effectiveness within the environment as perceived by
library management. The second broad area of study includes work on individual
management functions, such as planning, budgeting, personnel, and cooperation

Outlines a means to develop a relative measure of effectiveness for
particular aspects of operations of an information centre. The measure is
developed from positive opinion of clients about centre operations. It is
intended for application under conditions of change, but is useful even when no
change is contemplated

-181-

The role of OSTI in information research and development
Gray, J.
Dept. Education & Sci. London, England
AGARD Conference 136 on New Developments in Storage, Retrieval and
Dissemination of Aerospace Information (preprints) . London, England 2-3 Oct.
1973 p.4/1-3, 0 Refs, 1973
AGARD, Neuilly sur Seine, France
, iv+90 pp

-178-

Microfilm-based information systems and their use in an R&D center
O'Donohue, C.H.
Philip Morris Res. Center, Richmond, Va., USA
J. Chem. Doc. (USA), vol.14, no.4 p.163-5, 3 Refs, Nov. 1974 , Codeni jchda
ztcaas, ztraar

This paper describes the contribution of OSTI to information research and
development in the UK over 81/2 years of existence. It is divided into four
main sections-mechanized information systems, information analysis centres,

general research and management research (including library automation). In each section an attempt is made to summarise the main purpose of stimulating and supporting research and the principles that guide support. A concluding section deals briefly with support of research at Aslib and with the reviews of research in selected fields that OSTI has recently launched

-182-

Preparatory organization for the constitution of microfilm centres on the basis of the Standardized Microfilm System (EMS)
Borcharding, R.! Kundorf, W.
VEB, Kombinat Robotron, Dresden, Germany
Informatik (Germany), vol.28, no.2 p.35-42, 8 Refs, 1973 , Coden: iidwa
. In German

The introduction of the Standardized Microfilm System (EMS) in the GDR is a management problem. The preparatory organization work, both from the organizational and the technological points of view, calls for the team performing it being placed under centralized control and receiving a maximum of assistance from the central leading authorities. The authors analyse the tasks of the leading authorities as well as the procedure of preparatory organizational work on all stages of planning, and discuss some application aspects related to the planning and operation of microfilm centres, to which they add proposals for building up microfilm centres based on the PENTAKTA equipment

-183-

Library and information center management
Leimkuhler, F.F.! Billingsley, A.
Purdue Univ., Lafayette, Ind., USA
Annual review of information science and technology p.499-533, 163 Refs, 1972
American Soc. Information Sci.. Washington, D.C., USA
. Std Book No.8 87715 286 3
Cuadra, C.A.

The areas covered in the review are management information systems! planning, programming, and budgeting systems! planning! operations research and systems analysis! and cost effectiveness

-184-

The management of a sy:em of scientific, technical, and economic information in Czechoslovakia
Kniznice & Ved. Inf. (Czechoslovakia), no.1 p.4-13, 1972
. In Czech

The article is a contribution to the discussion on management of systems of information. It is closely bound with the question of management of libraries in Slovakia. The collective management of libraries and information centres in the whole state comes out of efforts to form a whole-state information integrated system which will be the supposition and the realizing factor of rational international cooperation of members of Reciprocal Economic Help Council in the sphere of information. The author pays great attention to the management and tasks of the central organs of control as well as to the problems of management in the lower components in the system of informations

-185-

Proceedings of a forum on the management of information analysis centres
. Gaithersburg, Md., USA 17-19 May 1971, 1972
NTIS, Springfield, Va., USA
Smith, W.A.
Committee on Sci. Tech. Information, Federal Council for Sci. Technol

The following topics were dealt with: e.d.p. operations and applications! abstracting and indexing services! marketing. 22 papers were presented, of which all are published in full in the present proceedings. Individual papers within the subject scope of this journal will be abstracted in this or a subsequent issue

-186-

Management decisions on engineering information
Hayward, B.R.! Shober, F.R.! Arnovick, B.N.
WADCO Corp., Richland, Wash., USA
decision makers . Denver, Colo.. USA 7-11 Nov 1971 p.71-5, 1 Refs, 1971
Greenwood Pub.. Westport, Conn.
. xii+413
. Std Book No.87715 486 2
North, J.B.

A series of management decisions are presented for the design, operation, and use of a specialized technical information centre for engineering design and development. If such an information centre is to be effective, a critical requirement is the education of technical managers in the proper use of this tool

-187-

Diagonal and diagnostic decision-making: applications to organizational development and change
Allen, L.A.
Univ. Kentucky, Lexington, USA
decision makers . Denver, Colo.. USA 7-11 Nov 1971 p.15-22, 8 Refs, 1971
Proceedings of the American Society for Information. Vol.8. Communication for
Greenwood Pub.. Westport, Conn.
. xii+413

The paper discusses the application of diagonal and diagnostic decision-making to libraries and information centres, in order to implement organizational developments and changes. The aim is to develop an environment of involvement and participation. This is accomplished through organizational development strategies with primary emphasis on the team building model. The team becomes the vehicle for both decision making and diagnosing the organization, as well as the effectiveness of the team and individual within the team

-188-

Proceedings of the American Society for Information. Vol.8. Communication for decision makers
. Denver, Colo., USA 7-11 Nov 1971, 1971
Greenwood Pub., Westport, Conn.
. Std Book No.87715 488 2
North, J.B.

The following topics were dealt with: decision making in information service management, information systems for decision making, information systems evaluation, information services for specialized subjects, information storage and retrieval, library automation. 56 papers were presented, of which 33 are published in full in the present proceedings, and 1 as an abstract only. Individual papers within the subject scope of this journal will be abstracted in this or a subsequent issue

MEETING PARTICIPANTS

Mr. C.D. ADAMS[+]	DRIC, 65 Brown Street, Glasgow, C2 8EX, UK
Mr. I. AKGUN	Ministry of Agriculture, Forestry & Village Affairs, Ankara Turkey
Asst.Prof.Dr.M. AKGUN	ODTU, Ankara, Turkey
Prof.Dr.Z. AKTAS*	Dept. of Computing Sciences, Middle East Technical University Ankara, Turkey
Capt.T. ALTAY	Turkish Air Force, Ankara, Turkey
Maj.N. ALTUNAY	Turkish Land Force, Ankara, Turkey
Mrs.B. AMCAOGLU	Library, Middle East Technical University, Ankara, Turkey
Prof.Dr.A. ARTUKOGLU	Hacettepe University, Ankara, Turkey
Lt.Col. A. ASLAN	Turkish Air Force, Ankara, Turkey
Mrs.B.F. AUBREY[+]	Scientific Information Services, National Defence Hqs, Ottawa, Ontario, Canada
Miss E. AXIOTOPOULOU*	Hellenic Air Force General Staff, Holargos/Athens, Greece
Dr.O.T. AYBAS*	Director of University Library, Middle East Technical University, Ankara, Turkey
First Lt.S.AYERDEN	Turkish Land Force, Ankara, Turkey
Mrs.N. AYTUG	TURDOK/TUBITAK, Ankara, Turkey
Mr.R. BERNHARDT*	Gesellschaft für Information und Dokumentation (GID), Postfach 71 03 63, 6000 Frankfurt am Main 71, FRG
Mr.R. BILGE	Metesan, Izmir, Turkey
Capt.O. BILGINER	Turkish Air Force, Ankara, Turkey
Mr.W.R. BLADOS*	Technical Info.Specialist, HQ Air Force Systems Command/DLXM Andrews Air Force Base, MD 20334, USA
Miss S. BOLKOZ	Ministry of Defence, Ankara, Turkey
Lt.Col.A BORAN	Turkish Navy Force, Ankara, Turkey
Ing.Gen.H.M. BOUCHER*	Directeur, CEDOCAR, 26 Bd. Victor, 75996 Paris Armees, France
Asst.Prof.Dr.O BOZKURT	Public Administration Institute for Turkey and Middle East, Ankara, Turkey
Lt.Col.H. BRAUN*[+]	Dokumentationszentrum Bw, Dezernat DDK-Infra, Friedrich-Ebert Allee 34, D-5300 Bonn 1, RFA
Ir.G.M. BREAS*[+]	Director, Scientific & Technical Documentation Centre for the Armed Forces (TDCK), Postbus 90701, 2509 LS The Hague, The Netherlands
Mr.C. BULCA	NATO SITCEN, 1110 Brussels, Belgium
Dr.J. CAPONIO[+]	Director, National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161, USA
Mr.A. CELIK	Library, Middle East Technical University, Ankara, Turkey
Asst.Prof.Dr.B. COKER	Building Research Centre, TUBITAK, Ankara, Turkey
Lt.Col.A. CUFFEZ*	Adjoint Informatique Logistique, Etat-Major Force Aerienne (VSL/I), Quartier Reine Elisabeth, Rue d'Evere, 1140 Brussels, Belgium
Mr.H. ERCAN	TUBITAK, Ankara, Turkey
Miss A. ERMIHAN	Ministry of Defence, Ankara, Turkey
Ms.A. ERTUNC	TURDOK/TUBITAK, Ankara, Turkey
Mrs.A. ESENSOY	TURDOK/TUBITAK, Ankara, Turkey
Oberst.Dr.R. FÖSEL	Head, DOKZENTBw, Friedrich-Ebert-Allee 34, D-5300 Bonn 1, RFA
Mr.J. GEORGET	Aerospatiale, B.P. 96, 78133 Les Mureaux Cedex, France
Mrs.R.A. GJERSVIK*	Director of Library, The Technical University, Library of Norway, Hogskoleringen 1, N-7034 Trodheim, Norway
Mr.I.C. GRAHAM*	Senior Librarian, Royal Signals & Radar Establishment, South Site, St. Andrews Road, Malvern, Worcs WR14 3PS, UK
Lt.S. GUL	Turkish Air Force, Ankara, Turkey
Ms. M. GUR	Library, Middle East Technical University, Ankara, Turkey
Lt.Jg.T. GURER	Turkish Navy Force, Ankara, Turkey

Mr.O. GURSUN	Turkish Air Force, Kayseri, Turkey
Mrs.I.M. HESELTINE*	Assistant Director, Canadian Institute for Scientific and Technical Information, National Research Council of Canada, Ottawa, Ontario K1A OS2, Canada
Mr.J. HOUNSELL	National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161, USA
Ms.G. HACISALIHOGLU	Faculty of Engineering, Middle East Technical University, Ankara, Turkey
Mr.H.S. ILGAZ	Turkish Land Force, Ankara, Turkey
Lt.Col.C.M. JORGE*	CLAFA-GEP, Base Alfragide, 2700 Amadora, Portugal
Mme.D. JULE	Aerospatiale, 12 rue Beranger, 92320 Chatillon/Bagneux,France
Mr.H. KARAKOK	Turkish Land Force, Ankara, Turkey
Mr.R.S. KATIPOGLU	Library, Middle East Technical University, Ankara, Turkey
Col. D. KAYA*[+]	Ministry of National Defence, Dept. of R&D (ARGE) Ankara,Turkey
Mrs.R. KOCKAR	TURDOK/TUBITAK, Ankara, Turkey
Prof.Dr.I. KUM	Hacettepe University, Ankara, Turkey
Maj.S. KUTLAY	Turkish Air Force, Ankara, Turkey
Mr.E.H. LAPEYSEN*	Scientific Advisor, Centre National de Documentation Scientifique et Technique, Bibliotheque Royale Albert ler, Bld. de l'Empereur 4, B-1000 Brussels, Belgium
Mr.R. LARUE*	Coordonnateur de l'Information Scientifique et Technique du CEA, Centre d'Etudes Nucleaires de Saclay, 91191 Gif-sur-Yvette, France
Mr.O. LAVROFF*	Societe Aerospatiale, Chef du Dept.Information et Documentation, B.P. No.76, 92152 Suresnes Cedex, France
Ms.B. LAWRENCE*[+]	Administrator, Technical Information Service, American Institute of Aeronautics and Astronautics, 555 West 57th St. New York, NY 10019, USA
Mme.F. LHULLIER*	Chef du Service Documentation, ONERA, 29 Av. de la Division Leclerc, 92320 Chatillon, France
Col.P. MARCONI*	Aeronautica Militare, Divisione Aerea Studi, Ricerche e Sperimentazioni, Aeroporto, 00040 Pratica di Mare, Italy
Mr.K.N. MOLHOLM*	Administrator, Defense Technical Information Center, Cameron Station, Alexandria, VA 22304-6145, USA
Ltc.K.M. MÖLLER	Assistant Branch Chief, Postfach 1328, Fü5 VI1, 53-Bonn,RFA
Lt.Col. J. MÜLLER[+]	Dokumentationszentrum der Bundeswehr, Friedrich-Ebert-Allee 34 D-5300 Bonn 1, RFA
Lt.S. NISANCIOGLU	Ministry of Defence, Ankara, Turkey
Mr.E. OLCAY	TURDOK/TUBITAK, Ankara, Turkey
Mrs.S. OZFIDAN	Ministry of Defence, Ankara, Turkey
Capt.S. PAPADIMITRIOU*	Planning Directorate, Hellenic Training Command, Dekelia Air Force Base, Patoi/Athens, Greece
Mrs.D. PATRINOU*	Technical Scientific Library, Hellenic Aerospace Industry, P.O.Box 23, GR-32009 Schimatari, Viotias, Greece
Capt.R. ROSSI*	Ministero Della Difesa, Direzione Generale Costruzioni AAAS, Viale dell'Universita 4, 00185 Rome, Italy
Mr.C.J. SALMON[+]	Chef du Service de Documentation, LABORELEC, 125 rue de Rhodes B-1630 Linkebeek, Belgium
Asst.Prof.Dr.B. SAYIN	Faculty of Engineering, Middle East Technical University, Ankara, Turkey
Mr.R. SEARLE	Chief Librarian, Royal Aircraft Establishment, Q4 Building, Farnborough, Hants, UK
Mr.D.G. STOLK	Head, Central Registry, SHAPE Technical Centre, P.O.B.174, 2501 CD The Hague, The Netherlands
Ir.A.S.T. TAN*	National Aerospace Laboratory (NLR), P.O.Box 90502, 1006 BM Amsterdam, The Netherlands
Mr.A.H. TEZEL	M.K.E. - Mechanical and Chemical Industries Corporation, Ankara, Turkey
Mr.G.TITTLBACH*	Fachinformationszentrum Energie, Physik, Mathematik, 7514 Eggenstein-Leopoldshafen 2, Fed.Rep. of Germany
Mr.T. TUNA	General Directorate of Meteorology, Ankara, Turkey

Dr.N. TUNCER	Yok Dokumantasyon Merkezi, Ankara, Turkey
Mr. M. TURHAN	Ministry of Education, Youth and Sport, Ankara, Turkey
Lt.Col. T. TURKOGLU	Turkish Air Force, Ankara, Turkey
Mr. M. TURKTEKIN	Turkish Air Force, Ankara, Turkey
Capt.M. USTUNDAG	Turkish Air Force, Ankara, Turkey
Mrs.E. URUNDUL	TUBITAK/TURDOK, Ankara, Turkey
Capt. RNLN A.R. VAN DE GRAMPEL	NATO/IMS, A&S Division, NATO Headquarters, 1110-Brussels, Belgium
Miss C. WALKER*	Head, Information Service Branch, SHAPE Technical Centre, P.O.Box 174, 2501 CD The Hague, The Netherlands
Miss N.M. WILDGOOSE*	c/o Director General, Policy Coordination, Department of National Defence, Ottawa, Ontario K1A OK2, Canada
Mr. M.R.C. WILKINSON*	Head, DRIC, 65 Brown Street, Glasgow G2 8EX, UK
Mr. V.A. WENTE*	Chief, Scientific & Techn.Info.Branch, Logistics Management & Information Programs Division, NASA Headquarters (Code NIT) Washington DC 20546, USA
Mr. A. YANEZ[+]	CEDOCAR, 26 Bd. Victor, 75996 Paris Armees, France
Mr. A. YILDIRIM	Library, Middle East Technical University, Ankara, Turkey
Ms. A. YILDIZELI	TURDOK/TUBITAK, Ankara, Turkey
Mr. I.H. HUCEL	The State Planning Organisation, Ankara, Turkey
Lt. C. YURT	Ministry of Defence, Ankara, Turkey

REPORT DOCUMENTATION PAGE

1. Recipient's Reference	2. Originator's Reference	3. Further Reference	4. Security Classification of Document
	AGARD-CP-416	ISBN 92-835-0417-8	UNCLASSIFIED

5. Originator	Advisory Group for Aerospace Research and Development North Atlantic Treaty Organization 7 rue Ancelle, 92200 Neuilly sur Seine, France

6. Title	PLANNING AND DESIGNING EFFECTIVE DEFENCE AND RELATED INFORMATION SERVICES

7. Presented at	the Technical Information Panel Specialists' Meeting held in Ankara, Turkey on 10—11 September 1986.

8. Author(s)/Editor(s)	9. Date
Various	April 1987

10. Author's/Editor's Address	11. Pages
Various	120

12. Distribution Statement	This document is distributed in accordance with AGARD policies and regulations, which are outlined on the Outside Back Covers of all AGARD publications.

13. Keywords/Descriptors	
Information centres Requirements Services	Planning Security Meetings

14. Abstract

This publication contains the papers presented at the meeting of the Technical Information Panel held in Ankara in September 1986. Topics covered are the information scene in Turkey, the benefits to be expected from an information service, the facilities provided by one, ways of determining user needs, strategic planning, security considerations, the resources required, the sources of information, the handling of 'grey' literature and ways of telling users what information is available.

AGARD-CP-416

Information centres
Requirements
Services
Planning
Security
Meetings

AGARD Conference Proceedings No.416
Advisory Group for Aerospace Research and
Development, NATO
PLANNING AND DESIGNING EFFECTIVE
DEFENCE AND RELATED INFORMATION
SERVICES
Published April 1987
120 pages

This publication contains the papers presented at the
meeting of the Technical Information Panel held in Ankara
in September 1986. Topics covered are the information
scene in Turkey, the benefits to be expected from an
information service, the facilities provided by one, ways of
determining user needs, strategic planning, security
considerations, the resources required, the sources of

P.T.O

(The above card is repeated four times, once in each quadrant of the page.)

information, the handling of 'grey' literature and ways of telling users what information is available.

Copies of papers presented at the Technical Information Panel Specialists' Meeting held in Ankara, Turkey on 10—11 September 1986.

ISBN 92-835-0417-8

---

information, the handling of 'grey' literature and ways of telling users what information is available.

Copies of papers presented at the Technical Information Panel Specialists' Meeting held in Ankara, Turkey on 10—11 September 1986.

ISBN 92-835-0417-8

---

information, the handling of 'grey' literature and ways of telling users what information is available.

Copies of papers presented at the Technical Information Panel Specialists' Meeting held in Ankara, Turkey on 10—11 September 1986.

ISBN 92-835-0417-8

---

information, the handling of 'grey' literature and ways of telling users what information is available.

Copies of papers presented at the Technical Information Panel Specialists' Meeting held in Ankara, Turkey on 10—11 September 1986.

ISBN 92-835-0417-8

AGARD does NOT hold stocks of AGARD publications at the above address for general distribution. Initial distribution of AGARD
publications is made to AGARD Member Nations through the following National Distribution Centres.Further copies are sometimes
available from these Centres, but if not may be purchased in Microfiche or Photocopy form from the Purchase Agencies listed below.

NATIONAL DISTRIBUTION CENTRES

BELGIUM
Coordonnateur AGARD — VSL
Etat-Major de la Force Aérienne
Quartier Reine Elisabeth
Rue d'Evere, 1140 Bruxelles

CANADA
Defence Scientific Information Services
Dept of National Defence
Ottawa, Ontario K1A 0K2 .

DENMARK
Danish Defence Research Board
Ved Idraetsparken 4
2100 Copenhagen Ø

FRANCE
O.N.E.R.A. (Direction)
29 Avenue de la Division Leclerc
92320 Châtillon

GERMANY
Fachinformationszentrum Energie,
Physik, Mathematik GmbH
Kernforschungszentrum
D-7514 Eggenstein-Leopoldshafen

GREECE
Hellenic Air Force General Staff
Research and Development Directorate
Holargos, Athens

ICELAND
Director of Aviation
c/o Flugrad
Reyjavik

ITALY
Aeronautica Militare
Ufficio del Delegato Nazionale all'AGARD
3 Piazzale Adenauer
00144 Roma/EUR

LUXEMBOURG
See Belgium

NETHERLANDS
Netherlands Delegation to AGARD
National Aerospace Laboratory, NLR
P.O. Box 126
2600 AC Delft

NORWAY
Norwegian Defence Research Establishment
Attn: Biblioteket
P.O. Box 25
N-2007 Kjeller

PORTUGAL
Portuguese National Coordinator to AGARD
Gabinete de Estudos e Programas
CLAFA
Base de Alfragide
Alfragide
2700 Amadora

TURKEY
Milli Savunma Başkanlığı (MSB)
ARGE Daire Başkanlığı (ARGE)
Ankara

UNITED KINGDOM
Defence Research Information Centre
Kentigern House
65 Brown Street
Glasgow G2 8EX

UNITED STATES
National Aeronautics and Space Administration (NASA)
Langley Research Center
M/S 180
Hampton, Virginia 23665

THE UNITED STATES NATIONAL DISTRIBUTION CENTRE (NASA) DOES NOT HOLD
STOCKS OF AGARD PUBLICATIONS, AND APPLICATIONS FOR COPIES SHOULD BE MADE
DIRECT TO THE NATIONAL TECHNICAL INFORMATION SERVICE (NTIS) AT THE ADDRESS BELOW.

PURCHASE AGENCIES

National Technical
Information Service (NTIS)
5285 Port Royal Road
Springfield
Virginia 22161, USA

ESA/Information Retrieval Service
European Space Agency
10, rue Mario Nikis
75015 Paris, France

The British Library
Document Supply Division
Boston Spa, Wetherby
West Yorkshire LS23 7BQ
England

Requests for microfiche or photocopies of AGARD documents should include the AGARD serial number, title, author or editor, and
publication date. Requests to NTIS should include the NASA accession report number. Full bibliographical references and abstracts of
AGARD publications are given in the following journals:

Scientific and Technical Aerospace Reports (STAR)
published by NASA Scientific and Technical
Information Branch
NASA Headquarters (NIT-40)
Washington D.C. 20546, USA

Government Reports Announcements (GRA)
published by the National Technical
Information Services, Springfield
Virginia 22161, USA

END

DATE
FILMED

11 87